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PHOTOGRAPHIC MAGAZINE

FOUNDED BY EDWARD L. WILSON.

L. W. WILSON, EDITOR.

VOLUME XLIII.

NEW YORK:
EDWARD L. WILSON, PUBLISHER,
NO. 289 FOURTH AVENUE,
1906.

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NOTE.—A full-page supplement is indicated by the name of the month.

EMBELLISHMENTS.

January.—Frontispiece. By KNAPPL & BRO., Knoxville, Tenn. Engraved supplements from photographs by HOMEIER & CLARK, Richmond Va., and KNAPPL & BRO., Knoxville, Tenn.

February.—Frontispiece. By HOMEIER & CLARK, Richmond, Va. Engraved supplements from photographs by RINEHART, Omaha, Neb.

March.—Frontispiece. By WM. NOTMAN & SON, Montreal, Canada. Engraved supplements from photographs by NOTMAN & SON; THUOT BROS., Fall River, Mass.; W. STRUCK, Leipzig, Germany and WILL H. DUNHAM, Corinth, N. Y.

April.—Frontispiece. By OTTO BOYE, San Francisco, Cal. Engraved supplements from photographs by A. T. BARRAUD, Brooklyne, Mass., and OTTO BOYE, San Francisco, Cal.

May.—Frontispiece. By SYDNEY H. WOOD, Darlington, England. Engraved supplements from photographs by THE FELDMAN STUDIO, El Paso, Texas; THE SHAFER STUDIO, Fairmont, W. Va.; JOHN TERRAS, Markinch, Scotland; R. DUHRKOOP, Hamburg, Germany, and F. CROSIER & SON, Readsboro, Vt.

June.—Frontispiece. By J. SAVANNAH, Victoria, Canada. Engraved supplements from photographs by J. SAVANNAH; J. M. BRIGHAM, Battle Creek, Mich.; H. J. LEONARD, Racine, Wis., and JAS. S. RADCLIFFE, Millville, N. J.

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NOTE.—The full-page portrait of an old man in the October issue, erroneously credited to W. S. Smiley, should be credited to its maker, W. S. Lively.—Ed.

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WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. JANUARY, 1906. No. 589

ETCHING PHOTOGRAPHS UPON STEEL PLATES BY ELECTRICITY.

BY A. J. JARMAN.

THE etching of steel plates for producing a printing surface for either line or half-tone, or in grain, is generally carried out by some special etching fluid supposedly known only to the firm that makes the etching, or by the skilled workman who makes this branch a specialty. One of the best etching fluids known for the etching of steel is a solution of perchloride of iron of a strength of 35 Beaume, and if the etching is to be made of a moderate depth some etchers use a dram or two of a solution of nitrate of uranium added to every pint of the perchloride of iron solution, the strength of the nitrate of uranium solution being:

Nitrate of uranium	240 grains
Distilled water	12 ounces

The addition of this solution aids the biting-in process considerably, but at the same time adds to the undercutting of the lines, so that when the plate is lying in the etching tray, the surface must be brushed vigorously with a good camel's hair flat brush, keeping up a constant circular motion, so as to wipe out any deposit at the bottom of the etch, and thus allow free action of the fluid. Now it happens that one of the greatest troubles of this method of etching is its great tendency to undercut the line or dot, as the case may be, and if these lines or dots should happen to be very fine, oftentimes several plates have to be made to secure the best results.

It is intended to show in the present aritcle how etching a photograph upon steel can be accomplished without undercutting, and hence save all the trouble of rolling up the plate with ink and the consequent troublesome job of brushing up the sides of the dots or lines with powdered dragon's blood and the fusing of this material for the protection of the sides of the lines or dots.

It must be understood that etching by means of electricity is not new—galvanic batteries of all kinds have been used, more particularly for the etching of brass plates. The first name-plate the writer possessed was etched by this means in 1871. The etching of steel is a different matter. There are different fluids that can be used for the purpose, but hitherto it is believed that no *accurate* conditions have been published whereby a given rate of etching can be carried out by measured current and electro-motive force that will always ensure a perfectly etched plate.

Some photographs can be etched direct without being translated into line or half-

tone, but these are exceptional. It must be understood that to secure the very best results the negative must be perfectly clear in the shadows. There must be no fogging or clogging of the shadows in the least. If there is, do not attempt to make an etching, make another negative, the best results being obtained by using the wet collodion process. The film must be stripped from the glass plate and reversed. It is inferred here that the reader is acquainted with the wet collodion process, and understands how to produce a good brilliant negative, a negative with considerable contrast, the high lights or lines in a line negative being perfectly opaque, while the shadows are practically clear glass. For the benefit of those who are not accustomed to obtaining such contrast, but know how to make the collodion negative, let them proceed as follows:

As soon as the negative has been developed and fixed with a weak solution of cyanide of potassium (twelve grains of cyanide of potassium in one ounce of water), wash the negative *well* in a smooth running stream of water from the faucet. When thoroughly washed pour over the surface a mixture of equal parts of sulphate of copper solution, 70 hydrometer test, and bromide of potassium solution, 35 hydrometer test; flood the plate well with this mixture, return the excess to the graduate or wide mouth bottle; pour this over the plate several times. It will be seen that the image will whiten up considerably. Wash the plate thoroughly in running water; then flood it with a solution of nitrate of silver, 20 grains to the ounce of distilled water; return the excess to the bottle. Flood the plate several times, until the lines of the image present a good dense appearance when held up to the light. If the density is not sufficient, repeat the operation by well washing the plate, then using the copper and bromide solution, and again the silver solution. Generally treating the negative twice in this manner is sufficient. The final treatment is carried out by flooding the negative while still wet with a solution of hydrosulphuret of ammonia (sulphide of ammonium), one ounce to four or five ounces of water. This will blacken the image perfectly in all those parts that require to be dense. This operation must be performed quickly. The plate is then well washed. It is now flooded over the surface with a weak nitric acid solution, one part acid to six of water. The object of this is to clear out the least trace of veiling that may exist in the shadows.

The negative must now be dried spontaneously, and when dry (*quite dry*), it must be flowed over with a solution of india rubber in benzole of about the consistency of cream. This coating must be allowed to dry. It is then coated with a layer of leather collodion, which consists of plain collodion to which a few drops of castor oil have been added. Those who wish to prepare their own leather collodion may do so by the following formula:

Photographic alcohol, C. P.	65	parts
Pyroxylin (gun cotton)	2	parts
Sulphuric ether	35	parts
Castor oil	1½	parts

Do not apply either the india rubber solution or the collodion if the plate is warm. Be sure the plate is quite dry and cold. As soon as the collodion has become set and dry, which is best accomplished by placing the plate in a rack, allowing the ether and alcohol to evaporate. As soon as dry, place the negative in a mixture of acetic acid one part, water three parts. In a few minutes the film will loosen. It can then be lifted from the glass support and laid down upon a clean glass plate that has been previously wetted, so that the face of the film is reversed. Place upon the top of this a wetted piece of paper, adjust the film in position, hold the plate so that the excess of water can drain from one corner, then carefully stroke the back of the wetted paper over with a soft india rubber squeegee, holding the paper at one end so that it will not slip. The paper may now be removed and the negative which is now in reverse dried.

Having secured the right kind of negative, the next thing to be done will be to make up the sensitive solution for coating the steel plate, this being a matter of considerable importance. The formula here given is the one that the writer has used repeatedly for the protective top, as it is called by photo-etchers:

The albumen of two fresh eggs,
Distilled water .....5 ounces

Beat this well with a whisk until well incorporated; then dissolve.

Bichromate of ammonia .....135 grains
In Distilled water ..... 5 ounces

Mix this by grinding the bichromate with the water in a mortar, with a clean pestle. Add to this mixture

Fish glue .....3 ounces

Mix it well with the pestle; add the albumen mixture; then thoroughly incorporate the whole with the whisk. Spend about five minutes in this operation. As soon as mixed, filter the mixture through absorbent cotton twice. It will keep good for a week.

Now prepare the steel plate, which should be of the finest and best quality. Special steel for this work is imported from Sheffield. Grip the steel plate with a pair of pliers, heat it over a gas stove, and wipe off all traces of grease with which the plate has been covered, using old, soft rags for the purpose; place the plate upon a board which rests in a slanting position in a sink, wet a tuft of absorbent cotton, press it into some fine pumice powder, rub the plate well up and down until a layer of water will rest upon the plate without showing any greasiness. Bear in mind the plate must be cleaned perfectly to admit of the sensitive covering adhering firmly. Now wash the plate well both front and back to get rid of all grit. Wash the hands, too, at the same time. Then pour on a small pool of the bichromate mixture; let it flow all over the plate; then wash it again well in a stream of running water; drain the plate; pour on a second lot of the mixture; allow it to run over the surface by tilting the plate, so that the water is driven off the plate by the sensitive mixture. Add a little more to that already upon the plate; place the plate in a whirler, so that it may be dried over a gas stove face downward; set the whirler spinning; keep it spinning over the gas stove until quite dry. Take care not to have the flame too high or in the least smoky. Remove the whirler and take on the plate, which should be about as hot as the hand can bear. Allow the plate to cool.

When cold it is ready to be printed. Adjust the negative in a suitable printing frame, the kind used by photo-engravers, with thick glass front plate. Place the sensitized steel plate upon the negative; fasten the back of frame in position; expose it to the light. If an arc light of two lamps, the time will be about half an hour; if to sunlight about twenty minutes. As soon as the exposure has been made, remove the frame to the workroom, unfasten the back and take out the plate, using both hands for this operation, so as to lift the plate without injury to the negative. If the plate is warm, allow it to cool by placing it back down upon a thick slab of iron, away from the light. The image will be seen perfectly in brown upon a very light brown steel base. Have at hand a wide mouth bottle containing a dense solution of aniline violet in water. Take the steel plate by the left hand, allowing it to rest upon the tips of the fingers. Pour a very gentle stream of water upon it, so as to completely wet the surface all over; completely flood the plate with the violet solution; rock it about; drain the violet dye off into the sink; wet a tuft of absorbent cotton and carefully wipe the dyed surface over while a gentle stream of water is running upon it. In a very few seconds, even with the first wipe of the cotton, the image will appear in violet upon a bright steel base, so that every line is brought out by examining the plate with a magnifier. If all the lines are perfect, which in nine cases out of ten they will be, place the plate in the whirler again. Suspend it face down

over the flame of the gas stove, spin the whirler round for about two minutes to completely dry the image.

This being done, remove the plate from the whirler and proceed to burn the image in by the following means: Grip the plate at one corner with a pair of wide-tipped pliers; hold the plate, face up, just above the flame of a good gas stove; keep the plate in motion, so as to heat it uniformly; then hold the plate by the opposite corner. This will distribute the heat. In a short time the violet of the image will disappear. By continuing the heating the image will reappear in a chestnut color. As soon as this color is reached, the burning is complete. The plate may now be placed in a sloping position and the back swabbed with a wet piece of rag to reduce the temperature. Now brush the back of the plate over with asphaltum varnish, first in one direction, then crosswise, so as to give an effective coating. Stand the plate aside to cool.

As soon as cold, scrape the asphaltum off in small patches at each end of the plate, and solder to them a piece of copper wire, folded and bent like the letter Y inverted, each end being soldered to the plate. When soldered brush over the joint a coating of asphaltum varnish, and allow it to dry. As soon as this is dry, which may be aided by heat, it is ready for etching. The necessary electric current can be generated by two Bunsen cells, consisting of an amalgamated zinc cylinder in a glass or stoneware jar, with a porous cell in the centre containing a block or plate of carbon, the outer cell being charged with a mixture of one part sulphuric acid to six of water. The inner cell is charged with strong nitric acid. The cells are placed side by side, with the zinc cylinder of one connected with the carbon of the other, thus leaving the terminals of one carbon and one zinc from which to employ the electricity. A square or round glass vessel may be used to contain the etching fluid, and a piece of carbon. A small carbon plate may be used for the cathode, or receiving plate, in the etching solution. A piece of steel or iron may also be used for the cathode, but the carbon is the best. Either of the following etching fluids may be used successfully: A solution of perchloride of iron 35 Beaumé or a saturated solution of common salt (chloride of sodium), to which have been added two ounces of hydrochloric acid to each pint. The perchloride of iron solution answers the purpose well. Take about four pints of this; pour it into the glass vessel, and arrange the battery cells for action. As soon as the cells have been charged as described immerse the plate to be etched in the etching fluid (which in this case represents the electrolyte); attach the end of the copper wire that is soldered to the plate to the carbon of the first cell; attach a copper wire to the plate of carbon or iron, and couple this with the remaining zinc cylinder of the second cell. Instantly gas will be evolved from the carbon plate, which consists of hydrogen. At the same time, the exposed steel of the plate to be etched is being attacked and eaten away, while the protected parts that are covered with the burnt-in enamel resist the action. When the etching has been allowed to continue for about eight minutes, disconnect the wire from the carbon plate; then lift out the steel plate and examine it. Use a soft camel's hair brush and brush out the deposited carbon and graphite, using a little of the perchloride solution to wash it out. It will now be observed that the etching has proceeded to quite a depth, which for many purposes would be sufficient, or it might require about five minutes longer. If for intaglio printing, ten minutes etch will be found sufficient, while for printing in with printer's type twenty minutes to half an hour is sufficient, although the etching may be carried on for an hour before the enamel resist will show signs of giving way. If further etching is required, insert the steel plate, then the carbon, but do not remove the steel plate before cutting off the current.

A very important point about this method of etching will be noticed: Instead of the lines or dots being undercut,

the sides of the etch are *tapering,* just like the sloping sides of the letters in ordinary type, and the edges of the protected lines are as sharp as it would be possible to cut them. This sloping of the etch is most important, because it does away with any need of rolling up and reheating the plate for very fine lines, and especially for intaglio printing this property cannot be overestimated.

If the electric energy is tested during the process of etching, by inserting an amperemeter in the circuit, and by attaching thereto also a voltmeter, it will be found that there is a constant electromotive force of three volts and a current of three amperes, which can be increased to five amperes by approaching the carbon plate within one inch of the steel plate when in the etching fluid. It has been found that it is not advisable to exceed four amperes at any time, because the heating of the etching fluid increases and softens the enamel resist, which soon gives way. The fact is, the steel plate to be etched stands in the same relation as the silver plate in an electro-plating bath, and becomes the *anode,* while the carbon or iron plate attached to the opposite terminal becomes the cathode. Hydrogen gas is given off and steel becomes deposited.

Unlike the ordinary etching with perchloride of iron solution, the etching liquid can be used many times over without at all affecting the quality of the etch. Theoretically, this should be so, because the chlorine of the perchloride which is liberated under the influence of the electric current attacks the steel plate, dissolves out the iron, forming perchloride of iron again. It is a fact that when a solution of common salt is used, acidulated with hydrochloric acid, the solution becomes intensely yellow, from the formation of perchloride of iron. The solutions may require to be filtered occasionally, but they appear always to act with the same vigor. This should form a considerable item of economy with the photo-engraver where much steel etching has to be done.

In regard to the current used for the electrical etching, it does not matter what the source may be, providing the energy used does not exceed three or four amperes and the voltage the same. The Bunsen nitric acid battery here described will keep up a constant current for six hours and the voltage the same. After this time both current and voltage fall rapidly. The drawback to the use of this battery is the nitrous fumes that are given off during its action. It is advisable to place these cells in another room, or out of doors, and lead two well insulated wires to the room where the etching is carried on.

There is another primary cell that answers equally as well as the Bunsen, *i. e.,* the Daniel cell, which consists of a square or cylindrical copper vessel, standing in the centre of which is a porous cell, either flat or round. The outer vessel is charged with a saturated solution of sulphate of copper, slightly acidulated with common sulphuric acid, and the porous cell, in which is inserted a stout rod of amalgamated zinc, the cell being filled with a solution of sulphuric acid, one part, to eight of water. Three or four such cells must be used. The copper cylinders must have a connecting terminal attached, also the zinc rod or plate. They are then coupled in series, *i. e.,* zinc of one cell to the copper of the next, thus leaving one terminal from the copper, the other from the zinc. An important point about this cell is that the electro-motive force of one volt can be relied upon, so that three cells will give three volts when coupled in series. They are also very constant in action.

As soon as the Bunsen cells have performed their work they must be emptied. The nitric acid can be kept for future use if it has not been worked too long, and the porous cells should be placed in vessels of water, the carbons rinsed in water and stood in the porous cells until required for further use.

If a battery of either of the kind above described is not used for the supply of electricity, but a supply is obtained from

a plating dynamo-electric machine, then all that will be necessary will be to insert a suitable resistance in the form of a well-constructed rheostat with a means of regulation, employing in the circuit at the same time an amperemeter and a voltmeter. By this means the *actual* measurement of the energy employed to do the etching will be *known* and not guessed at, as so much of the etching work is done to-day.

One point that must be attended to in the electrical etching is to keep the temperature down. This could be readily accomplished, if a number of etching vessels were employed, by cold water circulation around these vessels, the vessels equipped with top rods, as in the case of electro-plating, so as to suspend the plates with hooks, and a switch to cut the current off from the etching vessel when the plate had to be examined. If a scratch is made with a penknife through the enamel coating after burning in, this will serve to measure the depth of the etching by means of a micrometer. Six thousandths of an inch has been beautifully etched, with sloping sides, in fifty minutes.

There can be no doubt that in the course of time, when proper formulæ are established, that electricity will be universally used for etching purposes. There is an accuracy and certainty about this method not possible with any other.

INTENSIFYING BROMIDE PRINTS.

When bromide prints are lacking in vigor and contrast through errors of exposure and development, or from faulty negatives, the photographer generally either discards them altogether or accepts them on the lines of sales by auction "with faults and errors of every description," and they remain eyesores among his collection for an indefinite period.

The prevalent idea that an inferior print can be improved after development and fixing is erroneous; there are several methods of increasing the vigor, or reducing the harshness, of a bromide print. Perhaps the most convenient chemical for this purpose is one that most photographers have already at hand, bichloride of mercury. This is generally only used for intensifying negatives, but it answers equally well for bromide prints. In addition to gaining in depth the print is toned to a soft brown-black color. The modus operandi is very simple. The print is bleached in a solution of bichloride of mercury, and then well washed under the tap. Sometimes the bleaching action will be found not to progress very rapidly in the darker portions of the picture, and several minutes soaking in the mercury solution will be necessary. As a rule, the action of the mercury continues for some time after the print is placed in the washing dish, and, though the image may have been partially visible after leaving the mercury, the bleaching will be completed before the mercury is thoroughly washed out. After washing, the print can be blackened with ammonia, sulphite of soda or carbonate of soda. Ammonia gives rather darker tones than either the sulphite or carbonate of soda, but if care is not exercised there is a risk of spoiling the print with the peculiar iridescent ammonia stain. A strong solution of the alkali should be used in order to make the image as dark as possible. Prints can be toned without any intensification by the aid of mercury. If a bromide print is placed in a weak solution of mercuric bichloride, for a few seconds only, the color of the print will change to a rich brown-black; the print must be taken out of the mercury and rinsed immediately this tone is obtained or bleaching will commence. This method is one of the easiest and quickest ways of producing a good brown tone in bromide prints. Mercury can also be used to give a tone

to the whites of a picture when the contrasts between blacks and high light are too harsh. The print is placed for a few seconds in the mercury solution, then removed and rinsed; it is then immersed in a very weak solution of sulphide of soda; the sulphide combines with the mercury in the pores of the paper to tone the high lights of the print. When the whites are sufficiently toned the print must be immediately taken out and washed. By this means the high lights can be toned to any depth, the darker portions of the picture being unaffected. Care must be taken, however, that only a very weak solution of sulphide is used, or the lights of the picture will darken too rapidly, and the print will be spoiled before the sulphide can be washed off. If a large print is being treated by this method it would be advisable to first test the action of the mercury and sulphide on a spoilt bromide print. Bromide prints can easily be modified in the whites with mercury and sulphide; portions of the sky or any objectionable white patches may be locally tinted by means of a piece of cotton-wool dipped in the sulphide solution. When the high lights have been sufficiently toned the print must be well washed to remove the mercury.—J. I. Pigg, F.R.M.S., F.R.P.S., in *Photographic Scraps.*

THE IDEAL AVERAGE—CHARLES H. DAVIS.

BY SIDNEY ALLAN.

In view of the demonstrative scope of the camera as an aid of pictorial expression, it is astonishing that the æsthetic activity of photographers is so limited.

Technically we have made wonderful strides. But are the portraits of to-day really so vastly superior artistically to those that were made twenty or thirty or forty years ago? Look at the old daguerreotypes of David Octavius Hill, at the portrait work of Mrs. Cameron; there are few portratists who can excel or even compete with them to-day. The craftsmanship of photography has been improved upon, the material has become more flexible, but the artistic quality! I have very serious doubt about any decided progress in that direction.

The cause of it is largely this: When portrait photography had achieved popularity, and began to appeal as a necessary luxury to all, no matter of what station of life—this happened towards the end of the sixties during the last century—a large number of incompetent persons, attracted by the apparent ease of handling the photographic process, entered the profession: they only saw the commercial side of it; they had nothing to say, and did not know how to say it. And the result was the era of potted palms and papier maché balustrades, peopled with beings posed in fearfully awkward attitudes, like manikins and wax figures, amid surroundings execrable in their ugliness, the faces purged of every characteristic note, presenting surface as smooth and unlike life like a china doll.

This state of affairs was allowed to go on for several decades, until about fifteen years ago men like Charles H. Davis (of Davis & Sanford) appeared upon the scene. He had something new to say. His ideals were likeness, facial expression, naturalness of pose, grace of line, skilful lighting, and, above all else, artistic handling. The public realized at once the importance of this innovation, that an entirely new element had been introduced into photography. Davis' work became the fashion, and orders and money flowed to his studio from all sides, while his novel style, both of conception and rendering, at once so unique and original, excited the profound admiration of artists and discriminating persons all over the world. And this triumph was not an ephemeral one,

for Davis has sustained and added to his reputation up to the present day.

I have selected Charles H. Davis for my argument, not necessarily because he was the most important factor in this movement, but because his work represents to me a certain photographic ideal, that despite all recent developments has not been improved upon.

We all know that in recent years a new school of pictorialism has sprung up, whose members would like to add the honorary title of artist to their professional accomplishments. They are invariably fanatics of tone, these extreme pictorialists, and strive to give their photographic compositions (produced mechanically in the fraction of a second) the same importance as an artist to his painting (the result of manual dexterity extended over an indefinite length of time). They not only borrow the artist's ideas, but imitate the peculiarities of his technical expressions. They work in a marked degree under the same influence towards the realization of vagueness and mystery in which all outlines and detail are suppressed and lost, so that their meaning and intention are hard to discern.

In my whole career as an art critic I have always gone far out of my way to encounter a genuine manifestation of originality, and felt proud when I could write the first appreciation of a rising genius in a new school that had the promise of a future. But I fail to discover these qualities in the so-called methods of "personal control."

I do not accuse these would-be artists of taking negatives haphazard and neglecting all considerations of lighting, composition and definition, as other critics have done. On the contrary, I believe they are well versed in those matters. But they lack discrimination, they are not capable of self-abrogation, they put their own ambition to be considered artists higher than that of their craft—which no true artist does—and by this very weakness of personal vanity lose their grasp on original expression. To brush away with gum bichromate as much of the pigment as one chooses, to secure worked-out effects by local development with glycerine and treatment with a salt of mercury may be accomplishments, clever enough in themselves, but they do—if constantly employed as is generally the case—incalculable harm to the appreciation of the beautiful method of graphic expression, which sixty-four years of photographic research and progress have placed in our grasp.

The extreme pictorialists may argue that they have never claimed to have reached a standard of perfection, they are still searching for a new method of expression. If that be the case, then they admit that they are only experimenting, that they have arrived at a period of transition, and the work of such a period is never *representative* and not of undisputable technical excellence.

Their mastery of tonal composition is the only trump they can play, and they have won out with it—it is the fad of the hour.

It is not tone in the large sense as the old masters understood it. To Titian and Rembrandt and Velasquez "tone" meant a combination of all pictorial qualities, the contrast of color, the balance of light and darker planes, the line arrangement; all these together produced tone. They did not sacrifice form and detail, correct drawing, the physiognomy of the faces and the idea and conception of the picture to it.

Don't misunderstand me. Tone is desirable; no picture should be without it. But it is merely one of the elements that enters into the making of a picture, and not the whole thing.

What the photographer sees in tone is merely the appearance of old age. The old masters have become famous, and the public has acquired a certain predilection for dark-toned pictures. The modern painters try to reproduce it, overlooking (perhaps wilfully) that the dark tonality is entirely an artificial product, as it is produced by the dust of centuries, by dirt and dampness, the chemical action of light, and the gradual change of color, oil and varnish.

The old masters painted in a low key, but they probably never thought that some day their pictures would look as they look now. The modern painters try to produce a quality which has nothing to do with art; they cater to the taste of certain art patrons that have a liking for old-looking things. And the majority of photographers have followed in their footsteps, but not in the direction of progress. It may be considered such at present, but *time will prove it* a poor substitute for these qualities which are truly photographic, which the peculiarity of the medium and the manner in which it is employed dictate, and to which all photographers will return as soon as they have realized the futility of ornamenting themselves with foreign plumes. The public takes no stock in these pictorial effusions, and never will, not because it does not know any better, but because its art instincts, no matter how vacillating and feeble they may be, are fundamentally normal and healthy, alien to all affectation and morbidness.

The nebulous visions of the extreme pictorialists, with their opaque shadows and obtrusive high lights, with their contorted forms and lurid light are doomed to decay, and the bald imitations of other graphic processes will end in the junk heap as the papier maché columns of former years. The photographer, true to his medium, will win out.

The Davis standard is still unsurpassed because it is truly photographic. The four qualities which I admire in his work and which it possesses to a remarkable degree, are of such importance to the welfare of photography, that they are really sufficient to prove my assertion: (1) That he believes in clear definition as the perfect eye sees it; (2) that he does not believe in manual manipulation which would spoil the photographic texture; (3) that he works in the black and white of the platinotype, and (4) that he has marked and emphasized the splendid linear possibilities of his medium.

Let us take up these points consecutively. What does the action of light draw on the sensitized plates? Is the picture thus produced clearly defined or merely an abbreviation of reality! No; if rightly handled, it invariably produces a subject with fulness of modeling and exactness of detail. Even pinhole photography is capable of holding sharpness and delicacy down to the finest touch. Clear definition is consequently one of the most essential possessions of photography. It is the one medium of pictorial expression which produces textures and details with ridiculous ease, and it should be the ambition of the photographer to combine all their arbitrary quantities, like the variety of notes in music, to a harmony without destroying the precision and elaborateness of the original pictorial passages.

Manual manipulation means the introduction of foreign elements in the photographic technique. Brush work and etched lines have nothing in common with photographic texture. It evermore leads to an eclecticism that kills original conception. Nearly all pictorial photographs of this order are the result of imitation, and not in the sense of a Raphael who observed in his own developed personality all he could assimilate of Giotto and Perugino, but plagiarism of the shallowest kind, fabricating a resemblance of beauty by piecing together fragments from all possible sources. This kind of pictorialism is, I must confess, very attractive at times, but it is entirely on the surface, and at the best merely rivals Braun and Hanfstängl in the reproduction of Old Masters.

Black and white has always been considered the ideal color for monochrome. Its range of tonal values is wider than in other tints, it is capable of producing the full scale of gradations and their slightest differences, relations and influences upon another. The brown of sepia and carbon is warmer and richer in tone, but its scale of values is by far more limited than in platinum, and it does not

permit the display of full chiaro-oscuro and every conceivable texture in the same degree. For that reason black and white is the most desirable expression in monochrome for the photographic print.

The linear possibilities in photography are so palpable and all pervading that they should form the principal attribute instead of being treated with indifference as they are at present. The present tendency to strive for hazy and blurred effects permits no frank display of lines. There is a desire to hide it under graduated tones and to obliterate it altogether. The extreme pictorialist, like the tone painter whose tricks of trade he imitates, feels an embarrassment about line, and sets to work to convey the idea of form by a clever juxtaposition of graduated tones. But photography is just the one medium which produces a clear, sharp line, not a graphic line like that of the etcher, but one which, without being really tangible, clearly outlines and defines every object represented. It was such a line expression all great draughtsmen were looking for, a line as distinct but intangible as the lines in nature. Line is indisputably one of the principal characteristics of photography, and as every medium of expression is best when it is most itself, it should be frankly shown. It will explain, suggest, interpret objects far more clearly and vividly than the blurred silhouette of the tonalists. Overmore tone is not alien to clear definition, the only drawback being that a clear tone composition is by far more difficult to produce than a muddy one.

There is in all methods of pictorial expression something more than conception and feeling, more than technical grace and charm. It is the *consideration* —so important and so rare nowadays— of the particular qualities of the medium in which one works, and the applicability of a given medium to a given subject. And this the Davis style typifies.

A professional portrait photographer, particularly one with the extensive clientele of Charles H. Davis, cannot reach in all his work the acknowledged standard of perfection. It must necessarily convey the flavor of commercialism at times. But if a man feels so strongly, so freshly, sometimes so artistically as this photographer, and when he expresses himself so clearly, so distinctly, so impressively, it would be ungracious, indeed, to resent the fact that he does not always speak as beautifully as he might. But always, whether he reaches or falls short of his own ideal, his work is true and *vital* photography—not mere tonalizing, not the record of mere artistic seeing, but the record of strong and individual convictions expressed in strong, frank and decided ways. It is always artistic in intention, always clear, always self-reliant, and to use again the word which comes irresistibly to my pen, always, truly photographic. Davis has proceeded in the right direction, and those who wish to reach the Monsalvat of the photography of the future must travel on the same road on which he has traveled.

SOME ESSENTIALS TO PICTURE MAKING.

A Lecture before the Edinburgh Photographic Society.

BY JAMES BURNS.

In treating the subject of Some Essentials to Picture Making, at the outset the primary and, in fact, the essential necessary to ensure success must be dealt with—Composition or selection of subject. However, instead of dilating at this stage on the rules of composition, which too often prove dull and meaningless when treated in an academic fashion, I propose later on to show on the

screen examples both from paintings and photographs, and to try and explain, and in some degree analyze, the principles on which they are constructed, their measure of success, and endeavor to show some pitfalls to be avoided, which course, I trust, may prove more interesting and instructive than the academic treatment alluded to. What I propose to do now is to try and express in as clear and concise a manner as is possible a few essentials which do not necessarily ensure the making of a picture, but awanting in such essentials any attempt at pictorial representation must be stamped a failure.

Composition.—If composition be absolutely essential to the painter it is even more so to the photographer. The painter may with color show more individuality or the personal touch than in the arrangement of his subject, and arrangement and color together may ensure the result that satisfies. The photographer has no such dual means at his command. He is held up at the outset by the limitations of his art, and he will never be much of a pictorialist unless this truth is brought home to him with a vividness he must never forget. In one tone of varying degree only has he the means of embodying his aims and expressing his individuality, and it therefore becomes imperative that he should so master the accepted principles of composition as to be able in all his pictorial efforts to emphasize to the best advantage the motive, sentiment, or story he seeks to convey to others. Most people can appreciate a well-composed picture, though it may not always be so easy to explain this appreciation. What, then, is composition? A well-known painter says: "The whole art of composition consists in making each part of a work advantage the rest, and help the beauty of the whole. It is the most subtle, most mysterious, and most difficult element to master and explain, and yet the very existence of art depends upon it. It is subject to no set rules, for its variations are infinite, and yet it has certain fixed principles which are so general that they apply equally to form, color, light and shade, tone, etc., as well as to the sister arts of sculpture, music, literature, the drama, and architecture. Like all the other laws and principles of art, those of composition are founded on the study of Nature, so that the photographer has an equal chance with the painter of mastering them, though he cannot take such liberty with his materials as the latter, and must frequently be balked by the inability to leave out or to change what is necessary to the complete beauty of the design."

"Composition may be described," says Horsley Hinton, "as a certain symmetry of design or arrangement which the human senses demand for æsthetic enjoyment. . . . Curiously enough we obey certain innate laws of composition in nearly everything we do in life. You put your clock in the *middle* of the shelf and ornaments on either side to balance. Placing a chief thing in the middle, and the others grouped around in orderly fashion prevails in most cases, except when we deliberately depart therefrom for the sake of variety. If we draw a design or representation of some particular thing, we instinctively set it in or near the middle of our paper, so much so that if in a picture or design the chief object were not the centre, we should at once wonder why, and seek if the paper were large enough to make it the centre of a new grouping; and this is the reason why gratifying or satisfying composition, such as the centrality of the chief object, is necessary in an artistic work, namely, that our sense shall be so appeased as to leave the feeling and imagination entirely undisturbed to respond to its appeal. Thus an artist sketches in a cottage, or perhaps part of a cottage, a tree, or portion of the road, a head and shoulders, and leaves the rest lest other matters should distract the attention from the particular item which it is intended shall appeal to the emotions and imagination, yet just sufficient other details are put in or suggested as shall

avoid the work possessing an incomplete effect. The photographer is not so free as the artist, but prompted by the same motive he first, in selecting his point of view, naturally focuses his attention around the chief object, and so chooses it that other items which he must fully include, perforce do not disturb the chief interest."

The primary requirement in a well-composed picture, then, is a principal object which shall maintain the attention of the beholder, and round which other objects may be grouped for effect, but which in all cases shall play a subordinate part, and only aid in emphasizing the important feature of the picture. This combination of a principal object with secondary details all harmonizing into a complete whole implies—

Balance.—Balance is one of the most important essentials of a successful picture. It is a recognized axiom in pictorial art that the eye should cross the central division of the picture at least once. The principal object being generally placed a little to one side or other of the centre, the eye moves naturally across the picture, and if it finds some other object of minor importance to the central object of interest, and which harmonizes therewith, balance is effected. Too often the desire to obtain this balance leads to the placing of items of more importance than is necessary, and divided interest is the result. Divided interest in a picture is nothing more than a false arrangement of balance, an overweighted attraction being used where a lighter one would have sufficed.

An American writer on art puts this matter in a series of postulates something as follows:

"All pictures are a collection of units."

"Every unit has a given value."

"The value of a unit depends on its attraction, of its character, of its size, of its placement."

"A unit near the edge has more attraction than at the centre."

"Every part of the picture space has some attraction."

"Space having no detail may possess attraction by gradation and by suggestion."

"A unit near the edge has more attraction than at the centre."

"A unit of attraction in an otherwise empty space has more weight through isolation than the same when placed with other units."

"A black unit on white or a white on black has more attraction than the same on gray."

"The value of a black or white unit is proportioned to the size of space contrasting with it."

"A unit in the foreground has less weight than one in the distance."

"Two or more associated units may be reckoned as one, and their *united centre* is the point on which they balance with others."

"There is balance of line, of mass, of light and dark, of measure, which is secured upon a *scale of attraction* which each possesses."

The Effective Arrangement of Light and Shade is another essential which is more difficult perhaps than the mere arrangement of objects. It may make or mar the picture. No one may dogmatize on this matter, every artist has his own ideas. Indeed it is the infinite variety of treatment which the disposition of light and shade offers to the individual artist which gives this aspect of picture making its great charm. It is the effective use of light and shade which ensures in a picture that much desired quality termed breadth. The photographer may learn much from Nature in this respect, as she is lavish on occasions in massing light and shade into the most wonderful effects. Breadth means mystery, suggestiveness, simplicity and reserve. Another essential in infusing into a picture these qualities is suppression. This is most effectively obtained through atmospheric effect and the true rendering of the tones in the various planes of the picture. In other words, attention to—

Values.—On this aspect I may be allowed to quote from two writers.

"Values represent the degree of light and shade which the picture demands, the relations of one part to another on the scale assumed. Thus with the same light affecting various objects in a room, if one be represented as though illumined by a different degree of light it is out of value; or, in a landscape, if an object in the distance is too strong in degree of light and shade for its particular place in perspective, it is out of value."—POORE.

"Aerial perspective is the phenomenon due to the atmospheric envelope through which all things are seen. The air which surrounds everything is not absolutely transparent, and if it contains much moisture or dust, it is much less so than when dry and fine. The effect of this is as if veils were interposed between us and the objects we look at, the further off they are the more veils there seem to be, till the distance becomes quite softened and hazy. It is not so much that objects far off become lighter than near ones, but that they become grayer. The black ones look lighter and the light ones darker. Beyond a certain distance, however, especially if there is an appreciable amount of mist, objects look lighter, for the actual color of the mist is added to the equalizing effect. A further attribute of atmosphere is its softening and spreading of details into flat tones and masses. A slight mist acts like a charm in simplifying the landscape. At eventide, when the mists arise, all garish and persistent facts are mellowed into a harmonious whole, and the prying light of day no longer reveals the secrets of Nature, but leaves her half hidden and mysterious. It is then that the poets and painters of all ages have loved to depict her, and we may well learn a lesson from them."—J. C. WARBURG.

It is of the utmost importance that in seeking to translate the color values of any scene we should endeavor to render them faithfully, and this can be done provided the right means be adopted—namely, the use of backed orthochromatic plates with a suitable screen. I have held and maintained this on former occasions when dealing with this subject. I am more than ever convinced by experience, and I venture to allege that much of what is termed false values in many of the pictorial works of the present day is due to the use of ordinary plates. An orthochromatic plate with screen will render the color values of a landscape far better than any ordinary plate, and what is true of the landscape is even more true of the sky, the most delicate details of any cloud form being rendered most faithfully. There are still those, even in our midst, who stick to the old faith, and refuse to avail themselves of newer and better methods. The plate makers, however, are paving the way to better things. Whereas, some years ago, I had only the choice of two brands of orthochromatic plates, now all makers of standing produce such plates, and even one make of roll and cut film used all over the world is now only made in orthochromatic form.

"If," says Horsley Hinton, "a landscape be rendered passably well, and the sky comes quite white, it follows that everything in the landscape of the same color or tone as the sky, has been falsely rendered."

Another matter in connection with this question of values and rendering of tone is the advisability of endeavoring to get cloud and landscape on the same plate. I shall be met with the objection that the cloud form is seldom suitable, and only rarely harmonizes with the rest of the picture. All I would say in reply would be to wait till the right cloud comes. In the kind of weather suitable for pictorial photography, cloud forms may often be seen changing so rapidly, and each change altering, as a matter of course, the lighting of the landscape, that I have felt amazed at the audacity of those who photograph a landscape in sunshine and with a cloudless sky, and then expect, by printing in a fireworks cloud form, to be able to produce anything but a picture

full of false values. The cloud form obtained by the method I advocate may not always be the best conceivable or desired, but it will in most instances be in harmony with the lighting of the landscape, and thus save one from the folly of using the same cloud form in half-a-dozen pictures hanging on the same wall, as I saw done in a one-man show a few years ago.

On this point a recent writer puts the matter as follows:

"Every year in the exhibitions one sees photographs in which Nature seems to have taken on so strange and unnatural a guise that one wonders that everybody does not notice it. One sees skies so opaque and leaden that they seem nearer than the distant trees, lowering skies with sunny landscapes, skies with strange, unearthly lights gleaming just where some important object of the picture needs emphasis. All this in a crude, theatrical way, which awakens distrust, even when we cannot analyze exactly what is wrong.

"Look at a cornfield and trees on a breezy day, before or after rain, and you will see the futility of all this. As the clouds alternately cover and uncover the sun, their shadows chase each other over the corn. One moment a sheaf shines golden bright against a dark cloud, at the next it shows up dark against its white edging. Every moment it changes, and at every moment the light and shade of the landscape varies with the light and shade of the sky. The two are intimately bound up. To take two consecutive plates within a few moments of one another, one to render the sky, one the landscape, is difficult; to expect a sky taken at another time and place to fit is expecting too much. I do not say that with the instinct born of years of observation it may not be artistically done, even in so difficult a case as this, but often it is like printing the head of a portrait taken in the studio on to a body taken out of doors.

"In olden days we suffered from 'bald-headed' skies, blank untruths; now we suffer from unnaturally beclouded skies, circumstantial falsehoods. Perhaps we may some day, with the help of modern plates and screens, enter upon an era when landscape and sky shall form one harmonious whole, each belonging to the other and strengthening it; when the light that lights the landscape shines from the sky that we see above it, and the two are obviously and convincingly one—wedded and indissoluble."

Before passing to the illustrations I wish to bring under your notice, let me add a word of warning to those who are apt to imagine that the principles of composition are abitrary laws. They are principles and no more, and the successful pictorialist, while finding them helpful, will not consciously build his picture on any particular form, but select that arrangement which best suits his subject, without feeling that he is constructing an arrangement of triangles, circles, or curves.

"The artist," says Whistler, "is born to pick and choose, and group with science these elements, that the result may be beautiful—as the musician gathers his notes and forms his chords until he brings forth from chaos glorious harmony."—*Journal of the Edinburgh Photographic Society.*

CAMERA WORK, number twelve, is before us. It is sumptuously illustrated with photogravure illustrations in full page on India paper from negatives by Alfred Stieglitz and F. Benedict Herzog, in addition to which there are a considerable number of half-tone plates beautifully reproduced on coated paper, daintily mounted into the publication. Several of the portrait studies from both these eminent workers are shown in this number and are well worth the careful study of every professional photographer in the land. One by Stieglitz, a portrait of Miss S. R., is a charming picture of a young woman. It is executed with an artistic feeling and evident truth to life and nature that are quite remarkable, even at Stieglitz's hands. Another beautiful portrait is that of a child, which seems almost to speak out of the pages of this sumptuous publication. It may truly be said of *Camera Work* as of wine, that it improves with age.

FINISHING CARBON PRINTS WITHOUT SUBSEQUENT MOUNTING.

BY W. FOSTER BRIGHAM.

ONE of the most effective and simple methods of treating carbon prints is to print under a mask of suitable shape and transfer to support of sufficient size to leave an agreeable margin.

This effectually dispenses with the bugbear of mounting, and if done well the result is often a great deal more pleasing than if a quire or two of grocer's bag paper were used.

There is a great deal more scope for the author's taste than might at first be imagined. This taste can chiefly be shown in the selection of the support and the position of the image thereon, but there is also room for ingenuity in the choice of hand-work on the margin of the finished print.

In respect of paper for base we are far in advance of the non-carbon worker, who even if he print with margins must either trim and mount in the usual way or stick to the original paper stock. Also, it is much cheaper to print say on a half-plate piece of tissue and transfer to 12 by 10 support than to print direct on to a 12 by 10 piece of sensitive paper. There is, of course, the disadvantage that we are practically forced to use the single transfer process, but this is more apparent than real, for the number of cases when reversal matters is very much less than is generally thought.

For the support we have choice of etching, different makes of drawing and variously tinted crayon papers. Those who wish to coat a special paper will not find it difficult.

Pin paper to drawing board or other flat surface and coat with the following solution:—

Nelson's No. 1 gelatine	1 oz.
Water	1 pint.

Soak gelatine for two or three hours in cold water and then dissolve by gentle heat, when dissolved add

Chrome alum	20 gr.
Warm water	2 oz.

This must be poured in very gradually, stirring the while. Filter and apply with broad camel hair brush. Two coats should be given; when dry proceed as usual. As the treatment is alike for all rough single transfer papers (double transfer is as usual when printing for subsequent mounting), it will suffice if we describe the procedure with the useful etching paper. This paper can be obtained both toned (*i. e.*, buff) and white. The toned etching gives a very fine effect when used with red or sepia tissue.

As it is somewhat difficult to place tissue correctly on support, it is as well to make three marks corresponding to the corners of tissue either by pricking or with a pencil. In any case the back should be marked, as it is almost impossible to recognize the proper side of the prepared paper when it is wet. Even when dry it is not easy. Coated side of ready prepared papers is usually the roughest. At times there are shining specks in places.

The great thing to remember with these rough papers is, that the support must be made pliable enough to squeeze into absolute contact with tissue. This pliability is somewhat hard to obtain. The paper must be soaked in cold water for two or more hours, and then placed for at least half an hour in hot water. After this treatment the paper should be soft enough to allow of the little hollows on the surface being forced into contact with the pigmented paper if fairly heavy pressure is used on the squeegee.

The sensitized tissue is printed in the usual way, using an opaque paper mask instead of a safe edge. When the single transfer paper is ready, immerse tissue in cold water until it begins to uncurl,

then place on support. Support should be laid upon a flat surface and flooded with cold water. To avoid air-bubbles as far as possible, take tissue by opposite corners, raise hands and bend paper along the diagonal. Withdraw from water and place corner in position on one of the marks, lower other corner on to correct mark, and drop the hands until both surfaces are in contact. Now use the squeegee, which should be of the straight-edge pattern, with some force. sweeping from centre of print outwards.

After a few strokes place between dry blotters, under a weight, leaving for at least thirty minutes before developing.

With these papers development should not be hurried by using too hot water, as the pigmented gelatine is even more liable to blister than usual. About 95 degs. will be quite hot enough.

If tissue had been under-exposed, soak for a longer period in warm water rather than raise the temperature of bath. Development should be complete in about five minutes—that is to say print stops bleeding.

When developed place picture in cold water to set the gelatine. To ensure permanency the print should be placed in

Alum	1 oz.
Water	1 pint.

But I do not invariably do this, as the yellow bichromate stain is very pleasing with some subjects. If alum is used prints are to be washed in running water for thirty minutes and then dried. You should now have a print which, if the tissue was squeegeed in correct position, requires no further treatment. Usually, however, it will be necessary to trim a little to get the sides of the subject and those of the mount parallel.

If the print appears to you to be too plain, a line drawn parallel to and at any distance from the print will give a good finish. Half an inch from print is a good distance. The line is easily made of any thickness by using a ruling pen. A set square is the best guide. Be very careful with the corners. A black line with Indian ink suits most things. Variously colored inks can be obtained, which will either harmonize or contrast with the print.

A double or even a triple line can sometimes be used with advantage, but beware of too much elaboration.

The title and author's name or hieroglyphic must invariably be of the same colored ink as line. The placing of these adjuncts has some bearing on the ultimate appearance of the whole, so should not be printed in without due thought.

If suitable margins are left and the lines are drawn neatly, the result should put to shame many of the multiple paper monstrosities.

This method of mounting on to thick support is capable of many variations.

It has been a surprise to me that carbon picture post cards are so little used. When done on etching paper cut to size the appearance is very fine, and a great relief from the ordinary bromide or worse P. O. P. cards.

The making of Christmas cards and calendars also comes to mind as suitable for this treatment, the print being directly on the support seems to be more in keeping with the idea.

Any mottoes or tables are easily written on the paper.—*The Amateur Photographer.*

The Annual Exhibit of the Edinburgh Photographic Society is announced to be held in the Society's hall, 38 Castle Street, Edinburgh, from Saturday, February 24th, to Saturday, March 10th, 1906. Entries close on February 10th and the judges selected to pass upon the exhibits are Messrs. J. Craig Annan, W. S. MacGeorge, and Arch. Cochrane.

For any further information, address Hon. Secretary of the Society, Mr. J. S. McCulloch, W. S., 3-a North St. David Street, Edinburgh.

HOME PORTRAIT

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CONSTRUCTIVE CRITICISM.

BY JAMES STUART CAMPTON.

COMPOSITION in a picture, while of prime importance, is most difficult to characterize, and artists will agree that it is subject to no fixed rules. While there are certain fundamental principles that should be carried out, such as balance, rhythm, harmonious arrangement of lines and spots, etc., each individual must depend largely upon his own personal feeling as to what constitutes a pleasing decorative effect. So long as he has intelligently and deliberately worked for a certain result, and has succeeded in telling his story by simple and direct means, and brought the whole thing to a unit, he may have achieved a good composition, even though he may have disregarded some of the lines most generally accepted as rules and principles.

In the realm of art there are still countless untried possibilities for the clever hand and imaginative eye. The original mind is invited to experiment and works out something new and individual. Only let no one deceive himself into believing that every result of such effort is a success, and it is not only prudent but essential that he should keep one hand tightly grasped about the known and tried, while he reaches out with the other into the experimental and unknown. Else he will find himself as one floundering about in deep water before he has learned to swim; and, so far from being admired for his daring, he soon exhausts himself and presents a sorry spectacle to onlookers.

If, perchance, some kindly individual comes to his rescue, to haul him back to shore, or to offer him suggestions for keeping himself afloat, he may be foolhardy enough to say, "Keep away! I have determined to swim in a new and original manner, and will have none of your old-established methods. They may do well enough for the rest of you, but I propose to show you what a genius can do!" But the laws of gravitation drag him down, and he proves that originality and bumptious ignorance are terms that are often confused.

In the long catalogue of photographic workers how many instances do we find where error has been committed in this respect, and the eye has been tortured and the brain bored by "original" ideas, that were oftentime palpable accidents, or the offspring of spoiled negatives, that were sufficiently bizarre or sensational to cause one to stop and wonder what was the meaning when there really was no meaning at all? Or sometimes things are dragged before one's notice that are drearily commonplace, just because their "creator" had in mind the work of some eminent photographer and saw a fancied resemblance between the duldulness of his own production and the subtility of the other.

If a man, endowed with the insight and skill of the artist, is fitted by training and ripened by experience he may find infinite latitude for the exercise of his imagination and his technique. Undoubtedly this is most true in lines outside of portraiture. In landscape, genre and figure pieces, whether illustrative or purely decorative, the artist often roams at his own sweet will, and so long as he has a definite purpose, coupled with the power of expressing it, he may take large liberties with facts; while the greatest charm of some art is its suggestiveness of something entirely different from the actual subject treated.

But in portraiture this is different. Everything is subject to the arbitrary law of reproducing the likeness, and every means must be employed to portray the character of the subject. The purely imaginative faculty must give way to the perceptive and interpretative, and the artist should aim at fidelity to his subject first of all and make his own individuality secondary. True, he should

endeavor to be individual in his interpretation; but to flaunt his individuality in one's face so that one loses sight of the subject, while it may be a clever technical performance, is bad portraiture.

And truly there is nothing grander or nobler in art than the rendering of the aspect of a human face and figure so powerfully and with such subtility that one may read the soul behind them. Of course, in many ways the artist has the advantage over the photographers. He takes his time to study his sitter carefully, to determine his most favorable expressions and attitudes. He may employ many hours and even days in going over parts of his picture, subordinating ugly details, and accentuating pleasing ones, until finally he arrives at a composite of happy expressions that reveal (or should reveal) the sitter at his best. Then, too, he may revel in the potent charm of color, and the man with the camera, as well as any other worker in monochrone, must take off his hat. In a later article I may discuss the work of the three color process, and color values in photography, but space will not permit at present. The average photographer finds himself handicapped by the lack of time to study his sitter. If he be a very busy man, and is doing work at "popular" prices, he finds one customer treading so closely on the heels of the other that he is apt to feel that he can give but a few moments to a pose. whatever be his inclination to linger and work out the possibilities of the subject. Again, if he is fortunate in having a clientele of wealth and taste, and receives prices that permit him to pay due attention to every detail of posing, lighting and arrangement, he may still find many results unsatisfactory, and that, spite of all his endeavors, the camera has caught his sitter at an inopportune moment and registered something that was hard, wooden or unpleasing in some particular.

Still, the one important thing, after you have equipped yourself with training, knowledge and a mastery of your medium, is the study of your subject. The sitter comes to you as so much raw material, more or less pliant in your hands, to mould into whatever you will. It is your province to read and understand that sitter and determine his strongest points of character. You are to gain his confidence and put him at his ease, so that he forgets all about himself, if possible, and find what attitude or expression best reveals his inner self. Having determined that, your judgment sympathy and imagination are brought into play, to arrange all the accessories of drapery, grounds, furniture, etc., so that, if possible, they will have an intimate connection with the character as revealed in the pose. Here is where the artist in you shows himself or is conspicuous by his absence. This is the fascinating thing about portraiture and in photography especially is of prime importance, as the whole thing must be arranged as nearly right as possible before the exposure is made.

I know that it is the custom of some photographers to ignore certain things in the arrangement, depending on an after-process on the negative with chemicals and etching knife to eliminate certain things that should have been attended to before the plate was exposed. Now, while it is not only possible but often advantageous and even necessary to treat the negative, after or during development, to eliminate certain defects, I believe most firmly that everything possible should be done to establish the right conditions before pressing the bulb. This business of manipulating the negative is full of risk even in judicious hands. If it is done well it may be termed an artistic success. If it is poorly done it is simply "faking."

Let us consider for a moment the treatment of the subject in the photograph here reproduced. To a great many photographers it may seem to be a first-rate thing, and to contain many pleasing qualities. And truly, if no worse things were ever produced, the average photograph would be raised immeasurably in standard. In fact, I have selected it because of certain good qualities which it

possesses, as well as points that might be criticised.

The lighting is fairly soft and brings out good values on the flesh and drapery. The latter maintains the quality of a white dress, and is neither chalky nor muddy, while the gentle shading down toward the bottom of the picture prevents the eye being carried very far from the face by the brilliancy of light. The likeness is apparently very well preserved, and there is something about the arch expression that is very charming.

I would venture to say that the majority of people would accept it, pay for it and go home pleased. But, regarding it as an average good commercial photograph, let us study it a bit, to determine wherein it is weak, and whether there are not possibilities in the sitter for a really fine picture.

To begin with, the young lady is thoroughly attractive, and, while not absolutely beautiful, has a bright, winsome face that possesses something that far transcends mere prettiness, viz., character. Her hair is soft and careless, her gown dainty and simple, and is well suited to the figure, which is graceful in its lines and proportions. The arms show especially good lines and curves which might be utilized to great advantage. It is easy to see that she is a person of temperament and can be serious, thoughtful, merry, roguish or coquettish, and in her budding womanhood might be made a fascinating type. How much of this has the photographer realized in his picture? Make a circle surrounding the head and hand against the cheek, and you have the entire idea that has been expressed. Shut out everything else and study it for a few moments. Then remove the mask from the rest, and what do you find? The head is slightly inclined, resting on the hand, and you expect to find the elbow resting on a table, perhaps in front of the figure, the other hand resting on the pages of a half-opened book, or toying with a fan or some other trifle. But you find that the figure is not even seated, which you might expect from the position of the left arm. It is hardly inclined, and certainly not enough to warrant the head being supported in that fashion.

The other hand which you could imagine coquettishly holding a fan, is simply grasping the back of the chair and practically forms a right angle with the other arm, and both serve to lead the eye to the dark chair, which, by its size and being the strongest dark in the whole picture, takes the attention from the head, and unbalances the whole picture. This is further accentuated by the lace sleeve falling over it, which forms a spot against the black, something like the claw of a lobster. The right hand is spread out in an ungraceful shape, which is further emphasized by the shadow of the belt coming each side of it.

In fact, the whole thing is made to look posed, and is lacking in spontaneity. The head, instead of being supported by the arm, seems to be pulled down by it toward the chair. The chair itself, while

not bad for some things, being of a plain simple pattern, is out of keeping with the subject, and seems hard and severe. It might do very well for a stronger, more rugged type of person to be seated in, but jars in its present combination.

The most serious transgression, however, is in the selection of background. While it does not greatly offend in tone, and is very little cut up, it is palpably part of an outdoor effect, and this is, of course, incongruous with the idea of the rest. I hope sometime to devote a chapter to backgrounds, and feel justified in saying that my convictions will not move me to flatter the taste of many photographers in their selection of grounds.

In my next article I shall endeavor to suggest certain poses that would be effective with this subject. I should be glad to have photographs sent to me by the readers, with questions that would suggest different lines of discussion. As I am not attempting to cover the ground systematically, but rather speak as the spirit moves, I should appreciate any suggestions of this sort from you. It may appear that I have dwelt too much on trifles, but as one of the great masters once remarked, "Trifles make perfection and perfection is no trifle!" As I remarked before, you are privileged to disagree with me if you choose.

THE "RESTORATION" OF DAGUERREOTYPES.

PROFESSIONAL photographers are sometimes called upon by their customers to copy a Daguerreotype portrait, the image of which is nearly obliterated, or, to use a more customary term, "faded." Bad as the state of the picture may be, it is usually highly prized by its owner, who may have heard that such pictures can be "restored." The photographer, perhaps, may have no idea as to how to do the work, nor is it surprising that the majority of the present generation of photographers should not be *au fait* with a process that became obsolete some forty or more years ago. Last week, in the Answers Column, we replied to a correspondent who very wisely wanted the address of someone who made a specialty of restoring Daguerreotypes, or, failing to obtain that, some advice on how to do the work himself. We say "wisely" advisedly, for it is within our knowledge that many valuable Daguerreotypes have been irretrievably ruined by people, knowing nothing of the exceedingly delicate nature of the pictures, attempting to deal with them.

Few, except those familiar with the process, recognize how extremely tender is the Daguerreotype image, although it is in reality the most permanent of all silver pictures. The image, it may be mentioned, is not supported by a film of any kind, nor is it protected by one, as in the case of a collodion or gelatine picture. It is merely on the surface of the metal plate, and can easily be removed with the finger, and a slight touch may be quite sufficient to leave a mark which no after-treatment will remove.

Briefly, the Daguerreotype process is as follows: A silvered copper plate has its surface brought to an exceedingly high state of polish, *i. e.*, until it is quite black. As a matter of fact, it is this black polish that forms the deepest shadows of the picture, and the higher the polish the more vigorous the picture. This highly polished surface is exposed to the vapor of iodine, then to that of bromine, and again to iodine. The iodide of silver is thus formed direct upon the bare metal. After exposure in the camera, the plate is submitted to the fumes of mercury, by which the image is developed. It is then fixed and afterwards "gilded"—that is, toned with gold.

Now, what takes place when a Daguerreotype "fades" is that the silvered surface of the plate becomes tarnished

and the tarnish obliterates the image. But the picture is still there, and it is only necessary to remove the tarnish to make the portrait as good as it was at first, provided it has suffered no mechanical injury. If the picture was hermetically sealed, and kept so, so that the air did not obtain access to it, there would be no so-called fading. This sealing up the producers of Daguerreotypes were always careful to do by binding the picture, mat and glass together at the edges with goldbeater's skin, or a hard-sized thin paper. In nine cases out of ten when a Daguerreotype has faded it has been taken out of its case, unsealed for copying, and then simply put back again without the trouble being taken to secure it against the atmosphere. Hence the deterioration, which always proceeds from the margin inwards. Often the centre of the picture is quite good, while the edges are nearly black. It is obvious that the image being in the attenuated form just described, and having no film to hold it as in the case of collodion or gelatine pictures, mechanical methods, such as polishing, are out of the question; and, therefore, chemical means must be resorted to in order to get the tarnish away. Cyanide of potassium is the agent to be employed, and we will now describe the manipulatory details.

The picture is taken out of its case and the old securing paper cleaned off the back, carefully avoiding any particles getting on the front. If there is any dust on the picture which cannot be blown off it should be allowed to remain, as it will be removed in the next operation. Its removal, even by a camel-hair brush, if it be of a gritty nature, would be liable to scratch the image, and a scratch once made cannot be eradicated. The next thing is to wet the picture evenly, and this cannot be done direct with water, as the surface is very repellent to that fluid. The plate is first flooded with alcohol for a minute or two, and then put under a gentle stream of water from the tap, until all apparent greasiness is removed. Then, having ready a solution of cyanide of potassium, a little is poured over the plate and flowed backwards and forwards until the tarnish has been dissolved off. No definite strength for the solution can be given as the cyanide of commerce varies so much—from thirty to ninety per cent. The best way, therefore, is to make up a pretty strong solution and then add a little of it to some water, gradually adding more until the tarnish begins to yield, and then allow time for its complete action. The solution may be used in a dish; but the better method is to pour it on and off, as then it can be applied locally, if desired. The tarnisn having been removed—the picture restored—the plate is well washed under the tap, and finally rinsed with distilled water. If the final washing is with common water a thin veil is left from the lime or other impurities in the water. The picture is dried, and the drying must be done properly or streaks will be left. The method is this. The plate is held by one corner—say, the bottom left hand one—with a pair of pliers and flooded again with distilled water and drained from another corner, say, the right hand one. From this point the slope of the plate must not be changed. The flame of a spirit lamp is then brough under the highest corner, and as this dries the plate is gently raised so that the drying proceeds regularly downward. If there is a stoppage in the drying a mark will be caused which it is almost impossible to get rid of. In the drying, too much heat must not be employed, or some of the mercury forming the image may be vaporized and the picture weakened.

The work being finished, it only remains to hermetically seal the plate and replace it in its case. This is done by binding the picture, the mat and the glass together with a thin hard-sized paper or goldbeater's skin, as lantern slides are bound up. The best cement, perhaps, is flour paste; but gum should not be used, as when dry it is liable to split off the glass and metal. Most of the glass used for glazing Daguerreotypes was thick, and had its edges ground to give a tooth to the cement.

Although we have given very full details of the method of cleaning Daguerreotypes, we would strongly advise our readers, in view of the delicate nature of the image, not to attempt the work on a valued picture before they have experimented on one or two of little or no account.—*The British Journal of Photography.*

CLEANLINESS IN THE STUDIO.

BY MR. S. E. GOODALL.
San Francisco.

WHEN a youngster I frequently saw photographers' hands, wrists, arms, shirt-fronts, in fact, their clothing generally, covered with black stains. I was naturally curious as to what caused these stains, and was told, "Oh! the photographing business." Years afterward, when I began experimenting in the photographic line on my own account, with the old wet plate, I acquired these stains likewise, and supposed, of course, that they were part and parcel of the photographic business. I, however, had within myself a spirit of orderliness; and as I grew older I found that if I were orderly in my habits and methods, I became also more cleanly, less spotted, less stained, consequently presenting a much better appearance outwardly.

I early adopted the motto, "A place for everything, and everything in its place." By following this method in the photographic line I was always able to place my hand upon the bromide bottle, the restrainer, the accelerator, or any other bottle in the dark room without hesitation. I found also that by following this method, I knew where each kind of mount was, each kind of paper, each article of general use, either in the work room, dark room, operating room or office. There was no time wasted in hunting for things.

I was astonished on one occasion to have a young lady from Boston declare to me that while she was as neat as possible in her housekeeping arrangements, she found it impossible to be orderly. How these two, neatness and orderliness, can be separated I cannot understand. It appears to me that one is almost synonymous with the other. At any rate in my work through life I have found that the carpenter who has no especial place for his tools, who works ankle or mid-leg deep in shavings, loses more tools, and spends more time hunting them than is consumed in the actual work upon the job in hand. Two or three minutes will clean the place, while he spends half an hour in his search for a small tool which could be purchased, new, for half of the money necessary to pay his wages for that amount of time.

Why photographers should be more uncleanly than people in other branches of business is another astonishing thing to me. I have been told several times that I need never expect to make any money in the photographing business unless I would walk ankle deep in wet papers, trimmings, broken glass, etc., and that it was simply useless to undertake to keep a studio clean. I have not had the opportunity of visiting many of the studios of my professional brethren. One, however, I did visit, which was the means of giving me a severe cold, threatened symptoms of pneumonia, typhoid and goodness knows what not, from the fact that the only dry place in his apartments was on the top of the bed. As I remember, he had three apartments; one, a bed room in which the bed was curtained off, leaving room for a desk, to answer as an office; another one in which his camera for enlarging purposes was backed up against a window, and

the third, joining these two, in which all kinds and classes of work were done. The sink leaked; the table was full of water; the blotters upon the table had taken up as much water as they could, but were inadequate for removing it entirely. The water flooded the floor of this room, and over the sill into the camera room, and was only kept from encroaching on the office by a dam of wet paper, which the operator had constructed for that purpose. His waste basket was the floor at the foot of the bed. That is, when he was in his office. Elsewhere it was under foot, just where he happened to be. He showed me his camera, but in going from the camera to the street my shoes became so thoroughly soaked that I not only left wet footprints on the sidewalk, but took a severe cold, which caused me to more or less neglect my work for several days.

Another studio which I visited was apparently well conducted so far as the reception and operating rooms were concerned; but in the dark room it was the same proposition as in the former case; and even worse, since in this dark room dry pyro, dust from the floor and ashes from cigars or pipes were so dispersed through the air, that it was impossible to touch anything in that room, whether paper, plate, print or negative, without impregnating it more or less of this accumulated dust. In fact, by an actual test, a man rubbed his finger along the window sill and then touched a freshly exposed plate and attempted to develop it. There was so much hypo on that plate that it absolutely refused to develop.

Now when dust and dirt are allowed to accumulate after this fashion how is it possible for one to do good, clean and economical work? I know that many photographers, even those of many years' experience, turn out good pictures, but how many do they spoil in order to get the few good ones they do turn out? I have seen professional photographers condemn paper, and condemn plates, declaring that either paper or plates were faulty, when I am positively sure that the trouble was simply and solely in the dirt which the paper or plates had acquired in their manipulation.

Mind, I do not mean that the man who wears rubber gloves or tips (except to prevent poisoning) is the man who does the best work. On the contrary his work is generally the most sloppy. Get into it with both hands; but no necessity for getting in with both feet.

I have seen men so careless that in going from room to room they have left drippings of hypo to mark their entire course. Did they stop to wipe it up? No, they didn't. Did they call somebody else to wipe it up? No, they didn't. They simply let it evaporate and then be tracked all over the house. I have seen men carry dry hypo into the dark room, before opening the can, spill it upon their drain board, then just give it a rub with their hand, or coat sleeve, from the drain board to the floor, allowing it to mingle with the dust, dirt and other things incidental to one's traveling about. I have also seen other men so careless in their solutions with caustic, sulphite or volatile solutions that they will leave drainings or drippings of these solutions almost anywhere and everywhere; not only in the dark room and the work room, but even in the dressing room as well as the operating room.

One thing many workers neglect and that is the precautions they should take with their heaters, whether alcohol, gas, gasoline, coal-oil, or even electrical. Many use their heaters for warming their lunches, or for general cooking. Nothing greasy, or which will cause fumes or vapors of any kind, should be heated over these.

I have known a man so foolish as to cook his dinner of "steak and onions" over the heater in his dark room. What kind of plates or prints can such a man turn out? A fine combination, truly, grease, smoke, soot, ashes, cinders, *and* a photograph. With such work it is not at all surprising that people are shy

about ordering photographs of themselves.

It is no uncommon thing in the average studio when a lady calls on a warm day and desires a drink of water, that *the* glass, the *only* glass, is not to be found. "Who had it last?" "I didn't, you did." "Well, it must have chemicals in it in the dark room." It is then a hunt for the glass, which is probably not found and the lady customer must drink from a half clean graduate. The glass when finally found has been used for a small amount of refuse from a soda, or a potash, or a metal solution, the necessity for which could easily have been prevented if the operator were in the habit of filtering his solutions. All of these things contribute more or less to filth and nastiness.

An operator, covered with stains and marks of the hardships of his profession, is not an inviting object to the sitter. The prints that man turns out cannot, from very force of circumstances, be, as an average, clean and presentable. Such a man's reception room is enough to discourage any sitter; and as for such a man's *dressing room!* If by some force of circumstances he should provide a brush and comb, who in the world would care to use either?

The operator of to-day should not only be clean and neat in his own personal appearance, but from the fact that competition has reached a point wherein pennies must be saved in order to earn dollars, *every print* as well as every negative must be a good one. So long as that man is surrounded with dirt, dust, wet, slime and such other concomitants of a disorderly, poorly arranged and badly cared for studio, he can never expect to make a fortune in the photographic business. We see, month after month, studios for sale. Now, while I admit that the photographing business, for the professional, is not to-day what it was years ago, I will venture this remark, that if anyone will take the opportunity to investigate, they will find that those who soonest drop out, and who soonest become discouraged, are those who have not kept their establishments in an inviting condition, and who are what I call "dirty men."

I find in my studio that it is much easier to keep things clean than to allow any accumulation of waste, either in the shape of paper, broken glass, old corks, old plate boxes, etc., and that, after the first cleaning, the subsequent *keeping* clean is a very small item, and is of such incalculable benefit that the actual expense of cleanliness cuts a very small figure when compared with the inviting appearance of a clean, well ventilated establishment, and a saving of stained, thumbed or otherwise spoiled negatives or prints.—*The Monthly Review.*

Color Screen for Orthochromatic Plates.—It has been a matter of some surprise to us that in spite of the number of orthochromatic plates that are being put on the market comparatively few makers provide a color screen which has been made and adjusted so as to allow the user to take the fullest advantage of the particular plates they make, together with some definite information about the effect of those screens upon exposure. We do not mean a screen of optically worked glass, selling at a minimum of several shillings, and for nine-tenths of the work that it is called upon to do no better than one costing almost nothing, but a gelatine or other film, which should suffice at least to try the capabilities of the plate. A photographer might then see at very little expense to himself whether he liked the results obtained with the plates and screen, and whether they were too dearly purchased by the increased exposure necessary. If the conclusions at which he arrived were favorable to them he might then buy a more durable form of light filter if he wished. We are convinced that a departure of this sort would add enormously to the popularity of the orthochromatic plate.—*Photography.*

PROFESSIONAL PORTRAITURE.

An Address on Home Portraition Sent and Read to the Convention of the Photographers' Association of Virginia and Carolinas.

BY CHARLES WESLEY HEARN.

By request of your President, I was to have talked to you upon the subject of Home Portraiture, but being unable to attend your convention, which I much regret, I have hurriedly prepared this paper to be read to you.

Home portraiture is all the more interesting and fascinating on account of the rather tough propositions that are always coming up, which are, however, always looked for and expected. As an offset to the difficulty at times experienced, is the development of yourself as a resourceful worker, which is most valuable, and also the great variety of work that you produce, making a collection of pictures all the more interesting to the public, to whose taste we cater. It is, as we all know, very hard in the practice of our profession, under ordinary circumstances, to prevent our work from being monotonous and all more or less of the same character. This fails to create that enthusiasm over our pictures, by the possible purchaser, which is very necessary to encourage frequent sittings and otherwise extend our business.

Whether we make much of a pursuit of the work or not as a business proposition in itself, it surely is advantageous for our indirect success that all of us at times go into these things, like Home Portraiture, as a trade getter.

As a means of livelihood for the professional, considered independently of a regular studio with complete appointments, I should with much earnestness advise considerable caution.

In our ranks to-day are a number of amateur, semi-professional and strictly professional home portraitists, among whom in the professional class, Messrs. Histed, Pierce, Koshiba and Henderson are among the more prominent.

These latter gentlemen do work of a very high order, and their successes have attracted a great deal of attention, and yet only one of the three mentioned, Mr. Henderson, absolutely not having studio facilities within his cotnrol.

At first glance it may appear that making a specialty of home portraits is a very money-making way of doing business, as the rent and other expenses of running a studio is done away with, and one could have his office at his residence, but the amount of work to be done in any locality in this way is rather limited, besides requiring peculiar gifts in ability of being able to get a constant flow of customers.

When business is done, with the magnitude of Mr. Pierce's, North, South, East and West, over large areas of the country, with the necessary expensive measures to accomplish its attainment. execution, and delivery, with railroad and hotel expenses added, it eats into a great deal of money, and even the large prices he receives, are no more than the excellence of the work entitles him to receive.

The rumor of high prices, I think, is the cause of so much attention being given to home portraits, rather than the pictorial effects easily possible when making the work.

The people who can afford to pay high prices for these pictures naturally expect to receive value for their money. It is evident, therfore, that he who would do this work should have a superior knowledge of pictorial effect, and ability to produce it. Added to this is the knowledge of all kinds of faking to overcome difficulties and assist in the carrying out of good ideas. This faking of the negative and of the print also during printing, is ever present with you. To

succeed, it is of vital importance. The mere process of development is not a mechanical one, but requires slow, careful work to obtain the very best possible out of an exposure, which, if the negative were made under the studio light, would have been discarded.

Then again the high prices themselves, often obtained, are often an injury to the future of your business, if these same prices impress people as unreasonable. It is also a mistake to think that even the very wealthy don't object mentally, even if they do pay the bill.

This fact has within a few months come to my attention in connection with an artist in a distant city from where I reside. He informed me that he knew positively that his trade had been hurt in a certain section or circle because a patron, who was well able to pay what she ordered paid him a large amount of money for a large order which she gave him, knowing full well what the bill was to be. She told her friends the price she paid, without informing them particularly how much work she had. It spread rapidly, and her friends, less wealthy than this patron, went elsewhere for their work. He had expected great results from this circle of friends, but never had one of them.

By way of passing, it may be well for us *not* to pat ourselves on the back when we receive an extra large remuneration for a limited number of pictures, even if of special things where we may feel warranted in charging an unusual price.

It is well to bear in mind that if the product is such that we wish and hope for other work to come from it, it would be far better in the end, if we arranged our prices, to some extent at least, so as to render possible the patronage of a large number of the patron's friends. Arrange these things, therefore, to bring some returns for this special fine thing you've made, and not let it go to waste, with only the one person as the result of it.

The ability of the artist, and the excellence of the work made, should receive proper returns without giving the public an idea that our prices are extortionate.

In the making of home portraits, the general illumination of a room in a house is far less than under our skylights, and if the surroundings be also dark, then there are no reflections and the results will likely be black and white, hence the needs of small reflectors, which may be nothing but a towel or newspaper held up by an assistant or some member of the family on the shaded side of the customer, and a little to the front. In doing this watch that you do not reflect so much light as to spoil the shadow eye, or flatten out the shadow ear, making a noticeably dark and inky place from the nose nearly to the ear, and there very light.

Placing towels over the top of a two or three flap screen to be found in most every house, answers this purpose very nicely, as at three or five or even more feet away they reflect back sufficient light to illuminate without destroying the character of the sitter's expression. Blue tissue paper laid over the screen instead of white towels or cloths is also very good and perhaps better.

Mr. Steadman, who makes marvelously fine home portraits with a kodak, has written a little booklet for the Eastman Kodak Company, costing about fifty cents, wherein, by drawings and text matter, he much simplifies the difficulties experienced by the beginner. I advise all those interested to obtain a copy of the book and practice in their own homes with a 5-7 or 8-10 camera, with members of the family, till quite successful before attempting the more serious work of taking commissions for pay. By this means you will also have practice in the development which is a large part of the work.

Get a lens that works quickly, cuts well, and doesn't require too great distance, working reasonably near without distortion.

A good, quick-acting lens is of great advantage.

A general rule for lighting the subject is to place the sitter as far away from the light as the width of the window, and a little back from the window sash or pane work. By this means the full direct light from the window continued in a straight line as it travels, will pass practically in front of the face. The subject, however, will receive a mellow and powerful light, and by placing the chair a few inches this way or that. with suggestion to the subject of changing her position so she will face the window more or vice-versa, very beautiful effects of lighting are easily obtained in the face and figure.

A narrow window and bright light will most likely produce strong contrasts, but this can be easily modified by changing location of the chair. Work to do all you can with the light itself, and make it a point to use a reflector only when absolutely necessary.

If in lighting you can get a little of the natural light on the further cheek, and still find room for your camera, the results are better. If you do this and this light on the shadow cheek appears as very hard and sharp, then without changing relative position of chair with the window, place the chair a few inches or a foot further away, and you'll find that the light in the cheek will still be there, but not as strongly marked; it will have softened or spread over the rest of that side, thus reducing the contrast, rendering almost unnecessary a reflector.

In bust portraits try and have the bulk of the light come from the upper part of the sash, screening the lower part of it with one or two thicknesses of blue tissue, being careful in so doing that you don't prevent having a little snap of more high lights on the forehead and nose and a little less on the chin. Avoid extremes, however, a little don't mean so much that it merges all of the values of the face into one large white spot. Have just enough to prevent flatness, and so the head will be admired on account of the character, or feeling that it has substance, and the face well delineated because its various planes are well indicated.

Fine pictures are made by experts where all sorts of combinations are made as to location, strength or weakness of the light, combined with the successful carrying out of seemingly impossible effects, but you grow to this. Be satisfied in the first place to succeed in the preliminary stage, then your ability will be such as to successfully tackle and overcome more difficult things.

I have left for the last that which is of vital importance, namely, the plate you use. By all means, for serious work of this kind, use Ortho or Isochromatic plates. All good non-chromatic plates will make house portraits, but it seems to me that a color plate only should be the one generally used. Why? Because all the things in the room that take black, strong shadows in the face, etc., with an ordinary plate all take the same quality of black or very nearly so, and the white objects are unduly white amidst the gloom.

The Isochromatic plate, used without a screen or filter, will show great differences between the darks in the negative, and will hold down too pronounced whites, or at least bring them nearer together as they appeared at the time. They are best for weak lights.

Don't try to make a reputation in home portraits with ordinary plates. Give it up and start right.

I send the picture made a few days ago, and it is the finished proof print made from the doctored negative, for my inspection before the order is started upon. Am sending it under another wrapper and hope it will arrive before your convention is over.

It will be easily seen that this plate was not Isochromatic, on account of the wide range between the lights and darks, without much values in the darks. Made to look like a painting, it should have been made otherwise. Was out of color plates at the time the order came in, and not being convenient to a stock house,

could do nothing else. The background was made by very dark blue mosquito netting as arranged. On the shadow side of the figure and other readily noticeable points, the back of the plate was painted with crimson lake water color to fill in necessary places with light.

When the plate was developed, after the high lights on the the curtain had sufficiently appeared, it was rinsed, not washed, to remove greasy effects in a measure.

I then applied a diluted bromide solution with cotton to check their developing further, and with another tuft of cotton previously immersed in the developer of normal make, or a trifle stronger in pyro, I swabbed the rest of the negative continually, finishing the development of the plate this way. Once or twice I immersed it in the tray for a second or two, rinsing off again, and checking, and swabbing again until done, to prevent uneven development, etc.

The negative was first started by diluting a little of the normal developer. I used Seed 27, a. b. c. formula. The picture is not great, and it is not bad.

It would be very pleasing at your next convention to have some "home portraits," say as a side issue, for exhibition and non-competitive, purely as educational to you all. This is what conventions are for, and not to get prizes; although at times these awards seem to be necessary to get the work out. It should not be the case, however.

A MODIFICATION IN THE CARBON PROCESS.

BY ERNEST MARRIAGE.

It is rash to claim any novelty in the manipulations connected with so old a printing method as the carbon process, but I can confidently say that if the treatment detailed below is not absolutely new, it is very seldom practiced. One of the stumbling blocks to the carbon printer is the continuing action of light. The tissue may be correctly printed in the morning, but if it is kept until the evening or the following day it will very probably prove over-exposed. Storing in a calcium tube, so that the printed tissue is kept perfectly dry, stops this continuing action, but a few months ago I chanced upon a simpler plan for getting over the difficulty—simpler, because no special care or apparatus is required.

It happened that I had been giving a demonstration of carbon development before a photographic society—of course, in the winter session, when the air is damp and the light poor; that is, however, by the way. At the close of the evening there remained one or two prints squeegeed to single transfer paper still waiting for development. These were not thrown away, but were taken home and kept wet until the following evening, when they were found to develop satisfactorily.

The next step was to try if it was practicable to develop a print after drying it in the squeegeed state. The print was soaked thoroughly in several changes of water to get rid of the bichromate sensitizer, then dried. Before I attempted to develop it, the print was soaked in water for an hour or so, when the usual treatment resulted in a good photograph, indistinguishable from one squeegeed and developed as soon as possible after being printed.

Finally, a piece of sensitized carbon tissue was printed as usual, washed until free from any bichromate stain, and dried in daylight. It was kept in a drawer, with no precautions against damp or light, for a month (February to March), when it received the usual soaking preliminary to squeegeeing. Its behavior was normal; it coiled up first

in the water, then expanded. At this stage it was brought into contact with a piece of smooth single transfer paper, squeegeed down, and put between blotting-boards. Before development it was placed in a dish of cold water for a few minutes, a procedure I always adopt. The print stripped readily—behaved, in fact, exactly as a freshly-made print does in the warm bath. Before putting the matter to the test, it seemed possible that after drying, the carbon tissue, with its dormant print, might refuse to adhere to the transfer paper, but this was not the case.

Whilst I should not advocate keeping the print undeveloped in the dry state for any long period, it is often advantageous to be able to defer development without the uncertainty attaching to the storing of a print upon sensitive tissue. This is practicable enough when the printed tissue is desensitized in the manner I have described.—*The Amateur Photographer.*

WARM-TONED LANTERN SLIDES.

BY R. CASE REDDY.

(Concluded from page 579.)

Blue Tones.—Although there are several processes for producing the tone of a ferro-prussiate print, the most certain in the writer's experience is also the simplest, but the process considerably increases the density of the slide, and therefore calls for some considerable practice before it is easy to hit the exact point at which to stop development. Added to which, there are not many subjects for which a blue color is suitable.

Ferric ammonium citrate, 10 per cent. solution	½ oz.
Potass. ferricyanide solution, 5 per cent. solution	½ oz.
Acetic acid, 10 per cent. solution	5 oz.

The high lights of the slide become tinted with the ferri-cyanide in the course of toning, and the washing must afterwards be done until the color is removed. This will leave the slide a deep Prussian blue, for which, unfortunately, there is not a satisfactory reducer to correct too great vigor. Hence the need of having the slide of the right density to start with.

Which Process to Use.—It remains for me to say a few words as to which of these methods the slide maker will be wisest to select. My advice is to master first the copper and sulphide processes. The others have their places, but with these two at his command the worker will be able to produce a range of colors which should enable him to carry out his ideas as to the fitness of any given subject for a particular tone. Of the two, the sulphide is to be preferred for its richness and transparency in the shadows, though it has not the variety of effect possessed by copper. Next in order of preference I should place the haloid toning methods, and last of all the processes in which mercury is used.

Warm Tones by Development.—I can now come to the first of the two methods for obtaining warm tones mentioned in the earlier portion of this article. The method consists in strongly over-exposing the lantern plate, and developing with a greatly restrained solution. In adopting these processes a slow lantern plate should usually be selected. Many makers supply a rapid and slow brand of plate, the former usually for black tones especially. The slower plate is usually the one on which the warmer colors can be most easily obtained. As a developer, either pyro-ammonia or hydroquinone is suitable. I may, perhaps, first give a pyro formula for warm black tones, but for browns and reds the worker is advised to pin his faith to hydroquinone.

PYRO-AMMONIA FOR WARM BLACK TONES.

A.	Pyro	40 gr.
	Potass. metabisulphite	120 gr.
	Ammonium bromide	40 gr.
	Water	20 oz.
B.	Liquid ammonia	160 m.
	Water	20 oz.

Equal parts of these two solutions are mixed together, a fresh batch of developer being used for each slide. With a fairly full exposure about twice that given with a normal developer, this formula will give slides of a beautiful rich, warm, black color.

For hydroquinone development there are a number of good formulæ on the lines of that published in last year's Lantern Number of the "P. N." by Mr. T. Thorne Baker. One of the best in the writer's experience is the following, worked out by the Paget Company:

A.	Hydroquinone	½	oz.
	Sulphurous acid	¼	oz.
	Potass. bromide	60	gr.
	Water to	20	oz.
B.	Caustic soda	½	oz.
	Potass. metabisulphite	120	gr.
	Water to	20	oz.
C.	Ammonium bromide	1	oz.
	Ammonium carbonate	1	oz.
	Water to	20	oz.

The normal developer, doing its work in two or three minutes, and producing a black-toned slide, is compounded of—A one ounce, B one ounce, and water two ounces. For tones of various degrees of warmth, an increased exposure is given with proportional increase of the ammonium carbonate and the ammonium bromide. The following can be given as a guide to the times of exposure and development, it being assumed that the negative is one which will give a good slide a black tone in about thirty seconds. For brown tones expose about one minute and develop for about five minutes in the following: A half an ounce, B half an ounce, C 100 minims, water to two ounces. For a purple brown exposure may be about one and a half minutes, and the developer be made up thus: A half an ounce, B half an ounce, C 200 minims, water to two ounces. Development in this case will occupy about five minutes. For purple and red tones the exposures should be about three and five minutes respectively, and the developers made up according to the following formulæ: For purple, A half ounce, B half ounce, C 250 minims, water to two ounces; for red tones, A half ounce, B half ounce, C 300 minims, water to two ounces. Development for these warm tones will have to be done a good deal longer than for the preceding ones, and an average time will be found to be from ten minutes to a quarter of an hour. There are two points on which care should be bestowed in working by these methods. The first is that the ammonium carbonate should be pure and freshly purchased. This substance does not keep very well, and if it is not in clear pieces, but has a white incrustation upon it, a proper sample should be obtained. The second point is that a slide of warm color contains the silver in an extremely fine state of divisions, and is therefore exquisitely sensitive to chemical treatment. For example, it will be found that too long an immersion in the fixing bath will weaken the slide, and the slightest touch of reducer will remove it altogether. In fact, the writer is not aware of any satisfactory process of reducing a too dense slide of warm tone.—*The Photographic News.*

The P. A. of Pa.—The Secretary of this Association announces two prize contests, awards and conditions in accordance with the following circular:

BUCHANAN FLASH LIGHT CONTEST.

Mr. W. P. Buchanan, manufacturer, importer and exporter of photographic supplies, of Philadelphia, offers two prizes for flashlight pictures made with Luxo. First prize, a gold medal; second prize, a silver medal. Winning pictures to become his property, and must not be less than seven inches. No name to appear on picture. Entering exhibits for this contest please specify "Buchanan Luxo Prize." Open to all photographers in the United States, Canada and Mexico.

MORRISON GOLD PRIZE.

Morrison Photographic Supply and Manufacturing Company, of Pittsburg, Pa., offers $25.00 in gold for the three best portraits, to be not less than thirteen inches one way. No name to appear on pictures and may be framed or unframed to suit the exhibitor. Entering exhibits for this prize please specify "Morrison Prize." Open to members of Photographers' Association of Pennsylvania.

TICKET SCHEMES, ETC.

"Editor Wilson's Photographic Magazine:—If you can give space in your valuable magazine to the article below, you may save a little money for your readers, and greatly oblige your 'Uncle Jack'."

As the subject matter contained in the article deals with a subject that is very close to the hearts and pockets of a good many photographers in the outlying country districts, we gladly make room for the communication.—(Ed. W. P. M.)

The *Milwaukee Photo Dodger* has the following to say about "Ticket Schemes":

"Beware of any ticket agent. There is a crew working Wisconsin and Northern Michigan and they have induced a great many photographers to enter in their scheme. Why is it that photographers will listen to a stranger and be inveigled into a deal which makes money for the stranger, but causes a loss to the photographer? Now, if you want to cut your prices (for that is all ANY ticket scheme amounts to), why not get out your own tickets and mail or deliver them to the public? You get the benefit of all the money, whereas with an agent he pockets 50 cents for each and every ticket sold. Furthermore, an agent will promise anything as long as he can sell the tickets. He will promise to extend the time, or will throw in an extra print or perhaps an enlargement. In fact, you don't know what he might do, for he has nothing to lose and the 50 cents to gain. Keep out of the other man's game and don't go into any ticket scheme, no matter how attractive it may look. Of course, the agent will say that if you don't go in he will get your competitor. All right, let him try it, but if your competitor is wise he will turn the scheme down also. And if he don't, he will be the loser. Better put a motto on your desk, 'No ticket schemes for me,' and stick to the motto."

I might add that, not only "is a crew *working* Wisconsin and Northern Michigan," but crews are *working* every State in the country, and most vigorously working every photographer, in each State, who takes any stock in their schemes. The ticket fakirs are an ancient and unsavory lot, and it is almost beyond belief that photographers should still fall victims to these "grafters," but young members of the profession, who have not had the experiences of a dozen years ago, as well as some of the older ones who, in an unguarded moment, allow themselves to be persuaded that the "new(?) scheme" is the panacea for the dullness of the business, by which they are just now considerably perturbed, are still being "taken in" by this vampire class. Why can not *all* photographers in America get together and *as one man now* and *forever* refuse to have anything to do with any "fake" or "scheme" of any kind, and decide to stick to honorable and legitimate business methods? Would not *every* photographer in the business be benefited financially, and looked upon with greater respect and confidence by those with whom he desires business relations? *Just as sure as you live.*

In one of our State Associations the members agree to discourage in every possible manner, everything of a "fake" or "scheme" character, and all members are required to stick to the agreement, and the photographers in that section are doing themselves and one another a greater service than even *they* realize.

Why can not every member of our profession (and especially every member of a photographers' association) who reads these lines make with himself, *today* and *now*, the following agreement: "I will henceforth take no stock in any 'scheme' of ticket selling or anything of a like nature; but will confine myself to strictly fair and honorable business methods, and will make use of only legitimate advertising methods"? Wouldn't the "cut price," "cut throat," "free enlargement," "something for nothing" system of photography become "beautifully less"?

The "ticket scheme" is a "splendid graft" (for the ticket seller, who gets the money; but a misfortune for the

photographer who don't, and yet pays the freight). "Better steer clear," is good advice.

Another "splendid graft" is the one that has been "worked" for about twenty-five years by a party who travels with a line of beautiful samples of colored pictures, painted on "ivory"(?) by a "patented(?) process," that only *he* can teach you, and that you can make only by the use of "positive materials" that you must procure through him. Furthermore, you must buy from him the "territorial right" to make these pictures. For the "instructions," and the "territorial right," he will "soak" you for twenty-five simoleons, or if things around your place look prosperous he will make it fifty.

Now, my brother, I will tell you how to proceed when called upon by "the gentleman."

First, shake hands with him, and tell him that you are "glad to meet him." Second, if your door is not already open, open it as far as possible. Third, ask "the gentleman" to stand just inside the opening, facing outward. You then take a position about two feet to the rear of him, standing on your left foot, with your right swinging well backward. You now bring your right foot forward and upward, quickly and with great vigor, causing your toe to catch "the gentleman" at a point about eighteen inches due south of the belt line. If these directions have been carefully followed and a sufficient amount of force applied to the right foot, "the gentleman" should land some distance outside of your front door (where he rightfully belongs). Before "the gentleman" can recover from his surprise you should close your door (with great emphasis) and turn the key. You should then give yourself credit for twenty-five dollars, or, if things around your place look prosperous, make it fifty, as that is the amount he would have "let you in on the ground floor" for. You may now go about your customary business and feel thankful that you took the course as instructed above.

If "the gentleman" is not too much shaken up by the course pursued by you, he will probably see your competitor and "make you feel all kinds of sorrow and envy" when you find what a splendid picture in colors, on "ivory"(?) he can make (not) after taking the "instruction" and getting relief from his weight of coin; unless, of course, your competitor has also "got wise" and administers the treatment as outlined. If he follows your lead, he will be "in twenty-five or fifty."

If the beautiful samples, in colors, on "ivory"(?) are not sufficient identification of "the gentleman," he can be further recognized by the fact that he is rather large, good looking, well dressed and wears diamonds. Generally travels with a woman companion, who is also dressed "very swell" and wears diamonds (for which the photographers have been paying on the instalment plan at the rate of twenty-five or fifty per instalment). Of course, the photographers who have invested can not recognize their particular instalment; but that does not matter.

Most of the photographers who have invested can not make the pictures even after having taken the "instructions," and therefore have no use for the "territorial rights" which they will dispose of at a bargain; the only difficulty being that the new owner will have as little use for them as the present holder.

Of course, "the gentleman" gives you a very legal-looking "contract" for your money, together with an extra sheet of "directions" for making metol-hydro developer, etc., and also the address of the other "gentleman" from whom you must order the positive materials. You may send some of your good money to the other "gentleman" for "positive materials" and then never hear from either the money or the "positive materials," but that does not matter; it is a part of the "rights" that you pay for and you should not kick.

You had best, however, take the advice and administer the treatment as

outlined above, and if you should have a great desire to make pictures, such as the "gentleman" carries, and wish the instructions without parting with your ducats, and territorial rights extending around the earth, just tell the editor to ask your

UNCLE JACK.

PLATINUM PRINTING-OUT PAPER.

BY SIR W. DE W. ABNEY, K.C.B., D.C.L., D.SC., F.R.S.

THERE have been from time to time various formulæ given for platinum paper which will print out instead of having to be developed. The great drawback to such a method is the length of exposure necessary, and, what I have often encountered, irregularity in the prints. Probably this was a fault which might be traced to the printer and the preparer of the paper. Quite recently there came into my hands some platinum paper prepared by the Kodak Company, which had "gone off" and nothing but flat prints with dirty whites could be obtained. It struck me that perhaps the paper might be utilized by prolonging the exposure, and getting the image without development. The experiment was tried, and good black images obtained on a yellow background, the printing being carried out to the extent necessary to give an image black enough for a finished print. It was plunged into hydrochloric acid and water (1 to 40) and the iron salts dissolved, and then washed in the usual way with changes of acidified water. The print was perfect in every way except perhaps in one respect, which was that the surface of the paper appeared to render the image slightly less defined than if it had been obtained by development. As the size of the prints was 5x4, this was undoubtedly a defect. Why it existed is not very evident. On carrying the experiments further, it was found that weak negatives could be printed from to give brighter images than could be obtained by development, this last, of course, when fresh paper had been obtained. Paper which was quite fresh was next used, and there was no variation from the results obtained from the old paper, nor did dampness such as could be obtained by exposing the paper for 24 hours in a by no means dry room affect the quality of the print when printing out was carried on with it, though it did affect the quality of the prints by development.

It may be that there is some peculiarity in the preparation of the Kodak Platinum paper, as I have not met the same success with other brands. There is no doubt that the Kodak paper is particularly free from solarization, and it may be that this is a reason for its good qualities for printing-out purposes. It may be well to remember that an accidentally over-printed print intended to produce a picture by development need not be wasted, but can be left in the frame till it acquires the intensity required. It cannot, however, be denied that the printing out requires considerably longer time than that required for development; roughly speaking, it requires four times longer.

It may be mentioned that the paper used was thick, and with a prepared sized surface of some kind. It may be that the kind and quantity of sizing has a good deal to say to the matter.

It would be interesting if some members of the society were to experiment with the printing-out process, giving the results they obtained with weak and dense negatives, and comparing them with developed prints of the same subject. I do not know whether any one has tried the Nelson K. Cherrill frame for printing in platinum and modifying

results by its aid. It is comparatively easy to make any modifications in prints which are printed out, but much more difficult when the development process has to be carried out.—*The Photographic Journal.*

ON THE ACCURACY OF PAPER PRINTS.

BY E. J. SPITTA, F.R.A.S., F.R.MIC.SOC.,
President of the Quekett Microscopical Club, etc.

[It has long been matter of common knowledge that paper prints alter in dimension in the photographic processes, but it has always been supposed that the alteration was invariably in expansion. In this article, the result of much research, Dr. Spitta shows that in every case he tried, the paper contracted, and did not expand. These details are of very great importance in many of the applications to which photography is put. They should be of interest also to gum-bichromate workers, who encounter the alteration in size in one of its most troublesome aspects when working the multiple printing method.]

Although it is highly probable the attention of some experimenter may have been called to the subject before, still the writer has not come across any exact experiments to determine whether a positive made on paper is strictly commensurate with the negative, and, if not found so, in what direction the errors may be expected. It is true attention has been called in a general way to the fact that the paper positive was believed to stretch, and that unequally, according to the grain; but the belief appears to have been founded on the simple fact that two copies from off the same negative printed upon opposite ways of the paper often materially differed in size, one being longer than the other. Indeed, some portrait photographers are said to take advantage of this, printing long-faced subjects on one way of the paper and broad-faced models on the other, so as to lessen the individual peculiarities as much as possible. But so far as the writer can find, without pretending to have made an exhaustive inquiry, everyone, including himself, has assumed that, because one photograph appeared longer than the other, the paper had stretched more in this direction than it had done in the opposite one.

Curiously, however, the following experiment seems to show that such is not the case, the positive never appearing to stretch at all (save when wet), and it would seem the previously mentioned differences in length are really due to the paper *contracting* more in one direction than in the other! How the fallacy was detected came about in the following manner:

It was desired to copy some charts exactly. It would have been a convenience to reproduce some unusual barometrical and thermometrical records for others to keep side by side with their own experiences, but the labor of such reproductions, save by photography, seemed prohibitive. To obtain on a plate a negative that is a true copy of the original, is in itself no easy matter.

Approximations can be effected easily enough, but one that is exactly the same size as the original requires some considerable patience. This negative having been got, a print was made on Nikko paper. Whilst wet, it was found that the paper had stretched, as was anticipated; but some surprise was felt when, on drying, it appeared to have contracted slightly each "way" of the paper, just enough to prevent the copy being exactly a replica of the original. The negative which had been made, and proved correct with the original, was again compared, when it was found to be a very slight degree smaller, but as the latter had been accidentally wetted

since the first measurement had been taken, it was thought perhaps that that might have been the cause of the disagreement. To put this to the proof, and to make sure that the film on the negative does not contract, a flat glass rule divided in millimetres was placed successively on a "process" plate and a "flashlight," so that a slow and a rapid emulsion might be tested. After exposing, developing, fixing and drying in the usual manner, the same glass rule was used to examine the image on the films, making use of the identical figure copies in case some of the graduations might not have been quite accurate. The negative was in each case found to be absolutely correct.

The glass rule was then similarly placed upon several kinds of sensitized papers, a list being given below, with the result that every kind contracted to a small degree, although some did so more than others, and nearly all shrank differently across the grain of the paper in contradistinction to its length. It should be understood, however, that in the following table of contractions the terms "with" and "across" the grain are only assumptions, for it is quite possible one manufacturer may cut his sizes a different way from another; hence all that is meant is that the contractions were across or with the lengths of the papers as found in their respective packets. Then, too, it should be borne in mind that it is quite likely different batches would furnish different results, although repeated experiment with the same packet furnished the same results in all instances in which it was tried. The contraction of the carbon single transfer was so excessive that it was thought unnecessary to sensitize another sheet to test "across" the grain. Before discussing the list of papers tried, lest any mistake might have arisen in the measurements of any of them, they were all remeasured. Some surprise was felt to find that nearly all specimens had contracted still more in the interval of a week or a fortnight which had elapsed between the two measurements. This showed evidently that contraction goes on for some time after ordinary drying, for it was not likely all, or nearly all, the original measurements had been too small.

TABLE OF PAPERS.

Contraction in 100 mm. of the paper.

	Across.	With gr.
Ilford bromide (thin)	0.8	0.8
Wellington and Ward bromide	0.35	0.35
Nikko	0.3	0.4
Barnet slow enamel	0.25	0.3
Velox	0.3	0.55
Platona	0.6	0.5
Platinum	0.5	0.6
Aristo (collodion)	0.6	1.0
Carbon (single transfer)	—	1.1
Argentic chloride (Morgan and Kidd)	0.4	0.4
Ilford P.O.P.	0.45	0.5
Imperial P.O.P.	0.3	0.25
Paget self-toning	0.35	0.6
Imperial self-toning	0.35	0.6
Negative paper	0.4	0.4
Positive paper (Wellington and Ward)	0.6	0.5

On examining this list, it will be seen that specimens of bromides, enamel papers, platinum papers, collodion-covered papers, and printing-out, including carbon tissue, have all been tried, and that all have been found to *contract,* and not one to expand.

The question then arose as to what could such contraction be due? Was the paper at fault, or the emulsion, or both? If the paper, then it was conjectured that coating it with some solution of gelatine before printing might cure the trouble. Different percentages of gelatine and water were tried, when it was found that one in sixty did not do much good, but that one in thirty reduced the contraction of Imperial printing-out paper to 0.05 and 0.1 for across and with the length respectively, although, curiously, such a coating had no effect on Nikko paper. One in fifteen did not appear to answer so well as one in thirty, but here it was thought possibly the coating had somewhat to do with the falling off, as the last named solution was a little difficult to spread evenly. For this reason the next batch was floated on the

warm solution of gelatine, two coats being given, but no improvement seemed attainable. It was thought possibly the paper should be coated on the back before the emulsion was spread on, but no experiments were conducted in this direction.

Here, then, the matter must rest, anyhow for the present, but the experiments have rendered it evident that, for strictly scientific purposes, where absolutely accurate replicas from off the negatives are necessary, reproduction by printing upon any of the above-mentioned papers must be avoided; for where small quantities are in evidence, such as the relative position of stars in a star-chart of the heavens, or the exact position and relations and widths of lines in the spectrograph, an average contraction of a little over a sixteenth of an inch in every foo. would be a quantity which could not be called negligible.

Since writing this, I have been experimenting with wetting the back of P.O.P. and Nikko, allowing them to dry and then exposing. With P.O.P. this does not reduce the contraction any more than the coating of gelatine, but with Nikko it quite cures it *across* the grain, and only shows 0.7 mm. in 100 mm. *with* the grain.—*Photography.*

THE USE OF PERMANGANATES IN INTENSIFICATION.

PERMANGANATE has changed its position nowadays, as far as intensification is concerned, and has evolved from auxiliary to principal. Thus we find that many years ago it was used in connection with an iodine method of intensifying; the negative was "bleached" in a solution containing .2 per cent. of iodine and .4 per cent. of potassium iodide, *i. e.*, left until it had assumed a bluish-green tint; it was next immersed in a 3 per cent. solution of potassium permanganate, when the silver iodide produced in the first process caused the precipitation upon the image of manganic oxide. The treatment with permanganate was, however, only of secondary importance, the chief intensification being caused by the increased opacity of the partly rehalogenized image.

Some time ago the use of potassium permanganate was suggested with subsequent development with ferrous oxalate, the red deposit at first formed being decomposed by the oxalate, and manganic oxide or low manganese compounds being formed which gave the required intensification.

By combining partial rehalogenization, however, with the action of permanganate, a better effect is produced, and the result is an intensification which is of especial advantage in the case of under-exposed negatives, as the details in the shadows are brought up in a most satisfactory way.

The permanganate solution is prepared with hydrochloric acid, and, therefore, contains a small percentage of chlorine, as can be at once detected by its smell. The proportion of permanganate to acid may vary from 2:2 to 2:1, the latter being most satisfactory.

Permanganate Bath.

Potassium permanganate	2 gm.
Hydrochloric acid (conc.).....	1 c.cm.
Water	100 c.cm.

The negative, after having been thoroughly washed, is placed in this bath for a period between one and three minutes, during which time the image is transformed into a reddish-pink, and apparently loses very much in density. The clear portions become chiefly discolored, but no chemical effect seems to take place in them, as on subsequent development they again become clear and white.

A short rinse only, in water, is advisable between the use of the above bath and redevelopment; too long washing appears to lessen the intensification.

Any organic alkaline developer may be used, but hydro-quinone with caustic soda is recommended. The red plate, when immersed in the developer, quickly becomes brown, and finally black, and as already stated, the whites again become perfectly clear. A short washing in water concludes the process.

The effect on gradation, photo-metrically estimated, is fairly even, but contrasts are slightly reduced.—T THORNE BAKER, in *The Photographic Journal.*

NEWS AND NOTES.

Printing on Silk, Muslin, etc.—Answering an inquiry from a correspondent we give the following formula for printing on silk, muslin and other fabrics which is highly commmended by those who have used it:

Water	10 ozs.
Common salt	100 grs.
Gelatine	20 grs.

Dissolve with heat and uniformly moisten the textile, which may be conveniently stretched on a frame. When dry, moisten with a solution of silver nitrate, 40 grains to the ounce. The material being once more dry is ready for printing, toning and fixing as for prints on albumenized paper.

To Blacken Brasswork.—Clean off the old black with fine glass paper or emery and polish with tripoli; then use the following preparation: Dissolve forty grains of silver nitrate in one hundred minims of distilled water; also dissolve forty grains of copper nitrate in one hundred minims of distilled water; mix the two solutions. Dip the stops in this mixture and let them dry. When dry they should be heated on a sand bath until they assume a fine dead black color. Another simple method is to make lampblack into a paste with gold size, and add just sufficient oil of turpentine to make it thin enough to use with a camel-hair brush, then paint the stops with it.

To Make Chemically Pure Blotting Paper.—Ordinary white and colored blotting papers contain notable quantities of sulphites which have not been perfectly washed out of the pulp before passing to the machine. These bodies are added to the pulp after bleaching to get rid of the smell of chlorine, hence they are called "anti-chlors"; and generally consist of sulphites and bisulphites of soda. Their presence in papers which are used to dry photo prints is fatal to permanent results. It therefore behooves us to discard the use of common papers for such purposes, unless specially treated to remove such impurities. The following tests will enable anyone to judge as to the suitability of the various papers offered. *Acidity*: Take a piece of the paper, six inches square, place in a saucer, and pour over it distilled water, and work about with a glass rod for five or ten minutes. Now take a blue litmus paper or a little tincture of litmus and test extract, when if either turn red it shows presence of acid. Divide the extract into two parts; to one add a few drops of nitric acid, then nitrate of silver solution, when if a white, curdy precipitate is formed, it proves the presence of hydrochloric acid or chlorides. To the second portion add a few drops of hydrochloric acid, heat to boiling in a test tube, and add a solution of barium chloride; a white precipitate indicates the presence of sulphuric acid or sulphates. *Sulphites*: Take another piece of the paper, same size as before, and extract with water, and divide solution into two parts; now prepare a solution of starch, made by boiling four or five grains of starch with an ounce of water; allow it to cool. Get a little tincture of iodine, and dilute it five or six times with water, then mix equal parts of the starch

solution and the dilute iodine solution, when an intense blue color is produced; add a drop of this blue compound to one of the water extracts of the blotting paper, when if sulphites be present the color will be instantly discharged. Add to the remaining portion of the extracts a few drops of silver nitrate solution, when a black precipitate will be formed on heating, if any sulphites or hyposulphites be present. To free blotting paper from all impurities likely to injure silver prints, place the paper in a large developing dish, and flood with boiling water three or four times, then with a dilute solution of carbonate of soda, and again with hot water, washing free from soda; hang the paper up to dry. When dry it is ready for use. —*The Photographic Reference Book.*

Birthday Photographs.—An article that appeared not long since, in the New York *Sun,* has attracted the attention of the English press and the *British Journal* cites it as an example to be followed by progressive photographers of the other side. The idea is not a new one, but is capable of many applications. The article reads as follows:

"I have taken that man's picture on the second day of August every year for twenty years," said the old photographer, as a sitter passed out of the studio. "August 2 is his birthday, and he has faced a camera on that day every year since he was born. He is now fifty-six, and in an album at his house he has fifty-six pictures of himself, and there is room in the book for seventy. If he lives beyond the allotted three-score and ten he will get another album. He first came to me the year after I began business. The photographer who had made his birthday pictures for many years before that had died, and the new proprietor did not please him. The first time he came in he said nothing to indicate that he was other than an ordinary passing customer. Then, on August 20, he came back with a woman about his own age and had a picture made of her. On the 18th of the next January, he came with a boy of sixteen and had his picture taken. By that time I had begun to feel pretty well acquainted with him, and he told me the story of the photographs. His father had lost a favorite son, before my friend was born, of whom a picture had never been made. The old man had mourned the dead boy, and his grief was the more keen because he had no effigy of him. So he declared that if he was ever blessed with another son he would have his picture the day he was born, and on every birthday after. Accordingly, on the day my customer came into the world he had a picture made of him in his nurse's arms. On August 2 every year thereafter, as long as the father lived, he took the son to have his picture made. After the father's death the birthday photograph habit was kept up, and the pictures gave so much pleasure to their owner that when he married he established the custom in his household, and had a picture of his wife made on her first birthday after their marriage. Children came to them in due time, and each little one was photographed on his birthday and on every anniversary. He has an album for each member of his household, and I can assure you they form an extremely handsome and interesting series of human documents. Two of the sons are married and live far away from New York. They follow the custom their father taught them, and each year send him pictures of themselves and their families, and in return pictures of all those at home are sent to them. As a photographer, I may be a bit partial to the custom, but I cannot imagine a more delightful plan for keeping alive family affection, nor a more interesting book than one of those albums, carrying its hero through the seven ages of man. These albums are not only valuable to those who are bound to the originals by ties of relationship and love, but the historian may see in them the progress of fashions in apparel, styles and hairdressing, and the advancement made in the art of making pictures."

TRADE NOTES.

It is pretty generally conceded that the house of Ralph J. Golsen is as well known throughout the United States as any one other photographic supply house.

In the photographic world their lists and catalogues are as familiar as the ads. of "Uneeda Biscuit" or the "Gold Dust Twins." On the assumption that a series of views of the different departments of our establishment will prove of interest to the photographer, the current issue of the *Photopivot*, their trade publication, will be entitled, "A Photographic Trip Through the Greatest Lens and Outfit House of America" with about 24 half-tone illustrations.

They will reserve 1,000 copies of this edition to meet special requests—a copy will be mailed free for the asking. Send a postal card to Ralph J. Golsen, 72 and 74 Wabash Ave., Chicago, Ill.

When Messrs. G. Gennert, New York and Chicago, opened their Western store at 23 East Lake Street, Chicago, they had no idea that another move would be necessary so soon, but the way in which the business has developed under the able management of Mr. G. C. Gennert in so short a time has compelled them to seek larger and more convenient premises, which they have found at 53 and 55 Lake Street, Chicago, and are now in a position to handle their specialties and general photographic supplies with greater expediency and will permit of larger and more varied stock being carried. Whilst this move was in progress Mr. Maurice Gennert, who controls the New York branch, was in Europe and when he returned on the first of December, he was surprised on entering his office to see a large floral horseshoe standing near his desk. A label was attached, stating that this five-foot tribute was "from the employees" and is a gratifying token of the regard they all have for their employer.

We extend a cordial welcome to Mr. Gennert and shall be glad to hear of the photographic novelties, etc., he has secured whilst abroad.

EDITOR'S TABLE.

We are in receipt of a neat folder announcement from the photographic studio of J. Zweifel, of Dayton, O., that ought to prove very effective. It is a thoroughly good piece of artistic advertising, neatly gotten up and attractive in every detail. It consists of a handsome linen finish folder with an oval cut from the first page through which show the head and shoulders of a boy, which is printed full length and mounted on the third page of the folder. The announcement is neatly printed on the inside of the second page, beneath the oval. If more photographers would use this sort of thing or something like it there would be better business in photography. We congratulate Mr. Zweifel upon the get-up of this little publication.

We note that Mr. Walter Burke, F. R. P. S., has assumed editorial management of the *Australasian Photographic Review*, of Sidney, Australia. This publication is the most important photographic paper published in Australia and we congratulate its business management upon having secured the services of Mr. Burke, whose name and reputation in the photographic field are sufficient to insure his success and that of the publication.

The following letter from the C. P. Goerz Optical Works is self-explanatory. In view of the fact that the advertisement referred to appeared in the December number of this journal, we reprint the letter as a matter of simple justice.

Dec. 9, '05.

Paul Fournier, Esq.,
East Aurora, N. Y.

Dear Sir:—We have noticed in some of the photographic magazines one of your advertisements wherein you offer to sell photographic goods to any one writing to you within thirty days at the regular dealers' discounts. You name further a certain number of firms whose goods are supposed to be obtainable at those terms. Our firm is one of them.

Without entering into the merits of the case and pointing out to you the utter impossibility of fulfilling the promise made in your advertisement, we protest in unequivocal terms against the use you have made of our name without our consent, and in a way liable to mislead our customers, as well as the trade in general.

While we are not belonging to the trust we are not anti-trust dealers. Neither do we wish to appear as fighting the trust, which the terms of your advertisement may cause people to surmise. Far less do we wish to have it appear as if we were giving you our support in the unqualifiable business propositions you are making to photographers. We wish, therefore, to impress upon you in un-

mistakable terms, that in no way, manner, shape or form, do we allow you henceforward to make use of our name in your advertisements. This without prejudice of any further action which we may deem fit to take in the matter.

We trust you will take good note of the present request, and remain,

Yours truly,
C. P. GOERZ OPTICAL WORKS.

December 14, 1905.

WILSON'S PHOTOGRAPHIC MAGAZINE,
New York City.

GENTLEMEN:—An advertisement of Paul Fournier's appears in some of the photographic journals. As this advertisement uses our name without our knowledge or permission in a manner that we consider detrimental to our interests, we wish, out of justice to ourselves, to contradict any wrong impression and we, therefore, would thank you to give the enclosed article publicity in your magazine.

By so doing you will greatly oblige,

Yours truly,
BERLIN ANILINE WORKS.

IMPORTANT TO DEALERS.

It has always been the policy of the Berlin Aniline Works to recognize legitimate dealers, and dealers only, in extending a trade discount, and we wish to emphatically state that this policy has not been changed. Also, we wish to correct any false impression that may arise from a recent advertisement which appears in some of the photographic journals, to the effect that our goods are to be sold to consumers at dealers' discounts. As this announcement was made without our knowledge and our name used without a permission, we feel that the above explanation is due, not only to the dealer, but to the consumer. Also, this advertisement attempts to classify us as regards our business policy. This statement is a deliberate falsehood and an attempt to mislead prospective buyers, for in the conducting of our business we do not know the application of the word "trust" or "anti-trust."

As we value our reputation highly, it is our intention that our good name shall not be traded upon by anyone to advance their business interests or to promote any advertising scheme.

Being the manufacturers of the following articles: Metol, Amidol, Rodinal, Eikonogen, AGFA Pyro, AGFA Intensifier, AGFA Reducer, Blitzlicht, AGFA Isolar Dry Plates and AGFA Lantern Slide Plates, and proprietors of the well-known AGFA trade-mark, it has been our aim to promote the sale of our goods in a way that is in keeping with good business methods, and we would suggest, as a protection to all purchasers of our products, that they carefully note that the AGFA trade-mark is on every package, and thereby avoid any possible pitfalls.

WE have before us an album containing one hundred photographs made by sixteen members of the International Photographic Exchange, all the views in this album having been made in the city of Washington. Accompanying the album, which is to be mailed in turn by each member receiving it to the next in line, is a typewritten description of each view, giving its location and a brief history of the points of interest in the picture. This is undoubtedly a very interesting way of spreading broadcast pictorial information concerning the larger cities and points of interest in our country and will no doubt have a considerable interest to the members of the International Photographic Exchange. The illustrations are in the main good, although many of them depend more upon the influence produced by the picture than by artistic or technical skill displayed in their production.

From the condition of the typewritten pages of the descriptive matter as it reaches us, we cannot but heave a sigh and drop a tear of pity for those who may be forced to read it by the time it reaches the latter end of its journey. It would seem that a publication of this sort, which has to carry its message to so many distant and different readers would be better printed, or in any event typewritten in sufficient numbers to keep the sheets clean and presentable, which they are not now.

WE are in receipt from the Berlin Photographic Company, 14 East 23rd Street, New York City, of their extremely beautiful and comprehensive catalogue of fine art publications. This catalogue is octavo size, beautifully illustrated with exquisite miniature photographs printed upon half-tone paper and contains 246 pages of descriptive matter, price lists, etc. In this catalogue are contained the names of all the old and modern artists, and the biographical notes accompanying the artists' names have been compiled with the greatest care. This catalogue will be found a very useful companion to students of art and picture buyers in general.

BURKE & JAMES, of Chicago and New York, announce that they have purchased the entire estate of Jas. H. Smith & Co., which includes the good-will, patents, trade-marks, machinery and tools, and that it is their intention to continue manufacturing the best products of that company. Readers of W. P. M. will be glad to know that the high standard of workmanship already established by the well-known and long established house of Jas. H. Smith & Co. will be continued under the new management.

By Homeier & Clark, Richmond, Va.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. FEBRUARY, 1906. No. 590

CAN I AFFORD TO ADVERTISE AND HOW?

BY W. I. SCANDLIN

THIS is a question that a great many photographers to-day are asking themselves, and in far too many cases for their own good are answering it in the negative without investigation. No matter how small the gallery may be, if it is doing a business that supports its proprietor without advertising it can, with the right kind of advertising, be made to bring in a very considerable increase of business during the next twelve months.

The word "advertising" seems to scare a great many men who would profit greatly by looking into the matter before dismissing it. Advertising in its true sense, does not mean, of necessity, an expensive campaign of literature, newspaper space, periodical publications or matter of that kind, but properly embraces all efforts by which a knowlenge of the existence of the studio may be brought to the attention of the people of a community, their interest focussed upon it and the thought created in their minds that its products are more necessary to their welfare and happiness than they had believed to be the case.

In many of the larger towns and cities, photographers with a large population to draw from have long realized the value of publicity matter and advantage of working along some definite line of advertising, without which they would hardly deem it possible to carry on the business to-day. In the smaller towns where the population is limited and where the buying interest of the community has never been aroused to the purchase of goods other than those deemed necessary for the comforts of life, the case is different and the photographer located in a community of this kind naturally shies at a proposition which involves the expenditure of any considerable amount of money without a definite and absolute certainty of proper returns. It is nevertheless a fact that even in such communities as these, the photographer can inaugurate some sort of a publicity method by which in the course of time, his business should profit materially. It is, however, in most cases, a fatal mistake to imagine that the expenditure of a few dollars for leaflets, folders, follow-up letters or anything of that kind, even including newspaper advertising, will be of any material value in adding to the business of the studio, unless the campaign be carried on with persistence and upon lines that are well thought out and carefully planned.

The money that may be spent for a spasmodic dive into publicity by which the advertiser makes what to him is a tremendous splurge, but what to the public scarcely creates a ripple in the tide of their interest or enthusiasm, he

may better devote to the purchase of a box of cigars or other luxury and get the enjoyment of them himself. There are many lines of publicity that may be opened up in the smaller studios without the expenditure of a cent for printed matter of any kind and at this season of the year it behooves the ambitious man to get busy and work out the problem for himself. If he has a studio register that contains any considerable number of names, let him go carefully over it for the past four or five years. Let him pick out the names of patrons who have not been in his studio for a considerable length of time—it is safe to assume that he will find many such—and let him, during the spare time that he would otherwise employ in waiting for the customer to come in, sit down and write a few lines to the customer, reminding him of the time that has elapsed since the last negatives were made in the studio. Let him mail this letter under a two-cent stamp and await results. If none are in evidence during the following two or three weeks, let him repeat the dose, using a little different phraseology, but at the same time, dwelling upon his desire to show them something new in the line of portraiture or to bring to their attention some special line of printing or other special line of his studio which he believes would particularly interest them.

There is an endless field of possibility in the studio register of almost every photographic establishment in the country and it has never been half worked. If the proprietor of the studio does not feel competent to work out the problem of framing and phrasing such a letter, let him ask help of someone who can help him. There are plenty to whom he can apply and he need not be at any considerable expense in the matter, either.

If he wishes to reach a larger circle of possible buyers, let him prepare, or have prepared a neat, attractive, but inexpensive folder or leaflet which may be mailed under a one-cent stamp and let it be followed by another or a personally written letter a little later on. In any event let him assure himself at the start that whatever course he undertakes must be persisted in for a reasonable length of time if he is to expect any considerable return.

One thing may be taken as a self-evident proposition, namely, that if the establishment has been kept going without any effort of this sort, the right kind of effort will materially increase the returns.

It is also evident that if the returns can be increased in this way, the percentage of profit arising from increase of business will be very much greater than that resulting from the business as carried on under the old method. There are few galleries in the land that cannot handle a large proportion of new business in addition to that which they are already turning out, without any material increase of outlay over and above that necessary for the purchase of stock and material. It follows, therefore, that every new order resulting from this increased effort brings a larger proportion of profit to the studio than any single order for the same amount that may have been taken without it.

There are, too, in every community, opportunities for special work in the photographic studio that ought to be put to very much greater use than they are at the present time, or ever have been.

The studio with its outfit of more or less expensive apparatus ought to make it pay back its cost every year in the commercial work outside the studio limitations. If the rank and file of the craft in this country would see the possibilities that lie dormant in the field of commercial photography, and avail themselves of them, there would be far fewer causes for complaint about dull business than there are to-day. None of these possibilities, however, will develop themselves. The studio having an outfit to do the work and an operator with a fair amount of ability and ambition may find them, if it will push out into the surrounding field and acquaint the public with its existence. There is no better demonstration of this statement needed

than the experience that is coming under the eyes of photographers everywhere in connection with the amateur worker, who, despite the handicap of inexperience and poor facilities is in many cases taking work out of the hands of the professional photographers and is getting from it, in some cases, prices higher than the ordinary photographer would dare to charge for the work produced.

It is not necessary in such work as this to go into expensive advertising, but persistence is a necessity of the utmost importance.

As the spring season opens and the bettering conditions of light and the possibilities of out-of-door work may be expected, the photographer is urged to arouse himself from his lethargic conditions and to reach out after more business—business of the kind that will pay and help to support his studio. There is far more of it to be had in the land than the most sanguine photographer can imagine. It must, however, be gone after and by a persistent campaign of personal letters, printed matter or other kind of effort that brings the photographer frequently in touch with the public at large. After this campaign has been in operation for a reasonable time an appetite will have been created for work of this nature, which in the beginning of the campaign, may not even exist.

It is like all other luxuries, necessary to educate the public to a desire for the goods advertised before the full returns from an advertising campaign of any extent may ever be reasonably expected.

MACHINE-PRINTED PHOTOGRAVURE: AN ENTIRELY NEW METHOD.

THE printing world has long been looking for a process that will reproduce with photographic half-tone effect illustrations upon paper of dull finish and varying textures. There is no question but that the highly glazed surface necessary for the finest reproduction of the ordinary half-tone plate detracts very greatly from the artistic quality of the reproduction and the very nature of the paper itself militates against permanency and strength after the illustration is bound. There are many other disadvantages in the use of high surfaced papers.

If the process herein described and commented upon at length by the *Process Photogram* is a practical one it will solve many difficulties in the way of reproduction, as the *Process Photogram* prophecies. It is to be hoped that such will be the case, although the description of the process does not make clear wherein the remarkable difference betwen this and certain other printing processes already in use is to be found. (Ed. W. P. M.)

An extremely interesting advance in photo-mechanical methods is involved in a patent taken out by Sir Joseph Wilson Swan and his son, Donald Cameron-Swan. It introduces a principle which we believe is entirely new in connection with the printing of intaglio plates, and it enables us to produce very good photogravures at but little more than the cost of lithographic prints of the same size. Its importance to book publishers is great, for it will enable them to give plate illustrations at about the cost of their present half-tone prints, but produced on a light, kindly-handling paper that *is* paper, instead of the present "art" abomination that we are obliged to use for half-tone printing. This will bring us back to books that are reasonably light in the hand, that can be safely bound, and gilt-edged; with illustrations that are as secure in the binding as is the text, that are safe from scratches and folder-ma ks, that have a pleasant surface for the hand and for the eye, and that will not be ruined the moment they touch a little damp.

To publishers of engravings, calendars, Christmas cards and many other forms of illustrations—and even to pro-

ducers of illustrated magazines—the importance of the new invention is great.

We have seen prints by the new process. They are good, bold impressions, with crisp whites, rich full blacks, and plenty of intermediate gradation. The screen-grain is such as to be invisible from the point of view from which the prints would ordinarily be inspected, and the process seems suitable for any fineness or coarseness that one may desire.

The patent specification claims that:

"This invention relates to improvements in the methods of printing from photo-engraved intaglio plates, whereby such printing is produced more quickly, more cheaply, and more uniformly than has hitherto been possible.

"We take a photo-engraved intaglio plate, of zinc, aluminium or other suitable metal or alloy; a plate produced substantially according to the patent of Donald Cameron-Swan, No. 21,018, A. D. 1902, being specially suitable.

"Thus, for example, such a plate may be prepared as follows:

"A sheet of prepared lithographic zinc is coated with bichromated albumen, gum, gelatine or other suitable sensitized medium; when the coating is dry the plate is exposed to light under a half-tone positive made as described in above-mentioned patent. After exposure it is rolled up with lithographic ink, developed in cold water, gummed up, allowed to dry, then damped and rolled up with stiff lithographic ink, and dusted with bitumen, dragon's blood, French chalk, or other similar or suitable powder.

"The plate is then etched with dilute nitric acid to a sufficient depth, washed in water and dried, and the whole surface washed clean with turpentine. The plate is now in intaglio, the hollows being clean zinc whilst the surface retains its coating of albumen.

"Bitumen, resin or other similar and suitable powder is next dusted over the whole plate so as to fill up the hollows caused by the etching, and the surplus is wiped off the surface, and the plate heated sufficiently just to melt the bitumen or other powder. The plate is then placed in a bath of dilute caustic potash so as to remove the albumen film from the surface whilst leaving the bitumen or other powder in the etched parts. The surface now being clean zinc, it is gummed up, the gum adhering to the surface but not to the hollows filled with bitumen or other powder.

"The gum is allowed to dry, and the plate is immersed in benzole, turpentine or other suitable solvent of the bitumen or other powder, so that it is completely dissolved, and the hollows left clean. Lithographic transfer ink is then dabbed into the etched intaglio portions of the plate, the surface washed with gum and water, and the plate is ready for rolling up with a lithographic roller, when it is printed in the usual manner of lithographic printing, either on a hand lithographic press or on a lithographic machine having a flat or curved printing surface.

"In printing, the hollow recesses of the plate receive the ink, and the surface of the plate is kept clean by the repulsion of the greasy ink by its periodic damping with water, glycerine and water, or such similar or usual methods.

"Instead of using metal for our plates we may employ lithographic or other similar or suitable stone, or any substance possessing the special properties necessary for lithographic printing."

It will be seen that the important feature of the invention is the combination of the intaglio plate with the lithographic method of printing, which removes all the difficulties hitherto associated with machine-printed photogravure. The elimination of the wiper does away with the wearing of the plate, so that its "life" becomes almost unlimited. Moreover, the printing-metal is cheap; its manipulation requires no new training of the "process" staff; its printing is exactly on the lines familiar to the lithographer; and it can be run as rapidly as any lithographic job.

Prophecy is not very safe work, but the enormous advantages of a process which gives us fine prints, with quick printing, on the old-fashioned papers that will stand damping, may lead to the

lithographic method becoming even more important than the letterpress one. It is quite conceivable that all our important illustrated magazines and books—text and illustrations alike—may, before long, be printed by lithography, and if so, great will be the joy of all bookbinders, librarians and booklovers, who have dreaded the general use of the glazy, heavy, short-lived "art" paper which has alone been suitable for half-tone printing.

PRINTING-OUT TRANSPARENCY PLATES BY THE GELATINE PROCESS.

BY A. J. JARMAN.

It will be found very convenient to have ready to hand plates that can be relied upon for making transparencies for the lantern; plates that can be depended upon to yield transparencies that are clear and brilliant, and at the same time to ensure with certainty that twelve good pictures will be the result from a dozen plates.

The usual method of making transparencies upon gelatine plates by development can be carried out in a reliable manner by those who are engaged in transparency making, but there are a large number of persons who only make transparencies occasionally, and thus only too often is it the case that only a few good plates result. The general cause is want of clearness in the shadows and insufficient density, both these defects being caused by a thin veil of fog all over the plate, from using an excess of alkali or from the plates having been kept a long time before use.

Now it is possible, and thoroughly practicable, to prepare plates for one's own use that are reliable, will keep well, and never fog or veil, not even when they have been slightly exposed to the action of light; in fact, the plates about to be described can be manipulated in any ordinary room, as they are not developed, but printed direct upon the glass, with no operation of transfer. They can be handled in just the same way as printing-out papers, will keep well any length of time before use, and also can be kept for months between the time of printing and the after operation of finishing by toning and fixing. Any color may be obtained from a sepia to a rich brown or purple-brown; in fact, they produce results as nearly like the albumen transparency as possible.

It has been known for many years that the most brilliant of all transparencies obtainable with shadows so clear that there is next to nothing but clear glass have been those made with wet collodion, which, after being fixed and well washed, were toned with a chloride of palladium solution, consisting of six or eight drops of a ten per cent. of chloride of palladium solution to twenty ounces of water with a few drops of sulphuric acid added. In the present case, as there is no developing required, the color wished for is obtained entirely in the toning. There will not be many materials or utensils necessary, and those that will be required are both simple and inexpensive. Two small stoneware crocks will be required, each of about half a gallon capacity. They should be well cleaned with hot water. Do not use any soap or other alkaline cleaning substance. After well washing in hot water, rinse them out with clean cold water; do not wipe them, but turn them upside down, upon clean blotting paper to drain. To prepare the sensitive emulsion proceed as follows, and bear in mind that in the formula for making the emulsion *distilled* water *must* be used. The after washing of the emulsion may be carried out in ordinary clean cold water.

Into one of the crocks place the following:

Heinrich's hard gelatine ..	4½ ounces
Distilled water	10 ounces

Cut the gelatine up into strips and allow this to soak for half an hour. Now

prepare the following in clean wide-mouth bottles, as these are more easily handled than bottles with narrow mouths:

No. 1.

Chloride of ammonium, c. p.	45	grains
Distilled water	1	ounce

No. 2.

Rochelle salts	100	grains
Distilled water	1½	ounces

No. 3.

Nitrate of silver	1 oz. 80	grains
Citric acid (powdered)	95	grains
Distilled water	10	ounces

No. 4.

Powdered white alum	90	grains
Distilled water, hot	5	ounces

As soon as the gelatine has become well soaked, place the crock containing it into a large saucepan; pour into this some cold water, so that it stands up about three inches around the outside of the crock; now place the whole upon a gas stove until the water is brought to boiling point; meantime add the solution of chloride of ammonium. Stir this well with a glass rod, then add the solution of Rochelle salts. Next add the acid solution of nitrate of silver; add this very slowly, stirring well all the time; rinse each bottle out with a little distilled water. Pour these into the crock containing the emulsion. The crock may now be removed from the saucepan, placed upon a piece of clean board, and the hot alum solution added. During this addition the emulsion must be stirred well, and the solution added slowly. Of course, the mixing of these chemicals must be done under a non-actinic light, a small gas get or the light of a kerosene lamp a few feet distant from where the mixing occurs will be safe. After the alum has been added, five drops of strong ammonia may be added, and stirred well. Add last of all one and a half ounce of pure alcohol (photographic). Add this very carefully, stirring well, because if it is added too suddenly, the gelatine will become partly coagulated and give some trouble when the emulsion is remelted.

The emulsion being now made up, it will present a very creamy appearance. It must now be stood aside in a cool place to set, which it will be found best to do by preparing the emulsion over night, and allowing it to become set by the next day. When the emulsion has become completely set, it will present the appearance of a stiff block of blanc mange.

The next operation will be the washing of this emulsion. There are several ways of accomplishing this. One is to cut the emulsion up into small pieces, and allow them to soak in clean cold water for an hour; then to change the water several times. The cutting up is done with a bone knife or a hard-rubber paper-cutter (do not use a metal knife of any kind), but the best way to break up the emulsion, the one the writer has invariably used, is to procure a piece of canvas, with a very coarse mesh from a store where ladies' worsted work can be purchased. A square yard of such canvas can be purchased for thirty or forty cents. Take a piece of this about eighteen inches square, place a few lumps of emulsion in the centre, bring the corners together; then, when the canvas is tight around the emulsion, hold the mass tightly by the left hand and give the folded ends a strong slow twist with the right hand, taking care to squeeze that part well at the same time that is in the left hand. The result will be that the emulsion breaks up completely and squeezes through the meshes of the canvas in such size pieces as become easily permeated by the cold water into which it is allowed to fall. The whole batch of emulsion must be treated thus. As soon as this is done, tie the piece of canvas through which the wringing has been done over the top of the crock. Upon tilting the crock, the water becomes drained off, and the shreds of emulsion remain behind by virtue of their swelling up to a size larger than the meshes, and so remain in the crock. Another supply of fresh cold water must be added. The object of this washing is to free the emulsion of the salts produced by chemical decomposition, which would be harmful to the result, as these salts would crystallize out upon the glass plate, and

become deliquescent, and thus produce a sticky useless coating. The emulsion will require four changes of wash water, allowing fifteen minutes to soak after each washing. Now tie the piece of canvas over the top of the crock once more, invert it, and allow the whole to drain for an hour; this being done, the emulsion will now be ready for remelting and filtering for plate coating. One more solution must now be made up, as follows:

Nitrate of silver.....	120 grains
Distilled water	2 ounces

As soon as this is prepared the emulsion is ready for use.

It will be necessary in the first place to have all the glass plates ready for coating. These must be very clean and quite free from finger-marks or greasy spots; in fact, chemically clean, which can be easily accomplished by proceeding as follows: Take five or six dozen plates of the usual lantern size, and place them, one by one, into warm water, to which a small quantity of common washing soda has been added, or a few ounces of ordinary carbonate of soda (not bicarbonate). This alkaline solution must be rubbed well over both sides of each plate. The plate may be rinsed by dipping it into a vessel of clean water, then placed into a tray containing hydrochloric acid one part to twenty parts of water. As soon as the plates have all been treated in this way, remove them one at a time, and allow a stream of water from a faucet to run over the plate. Then place them in a clean rack to dry, away from dust. As soon as they are dry, pack them together, on end, covering them with a clean sheet of paper, ready for coating.

Coating the Plates.—A sufficient quantity of the washed emulsion must now be taken and melted in the second stoneware crock by placing it into hot water, just the same as in the first instance when making the emulsion up. As soon as the emulsion has become liquefied, and the temperature about 120 to 130 degrees Fah., add to each ten ounces, three fluid drams of the nitrate of silver solution. Stir this well, then add half an ounce of pure alcohol. When this is well incorporated, the emulsion must be filtered while still hot, which is accomplished by using a kerosene lamp chimney with a piece of cheesecloth tied over the top. The chimney then must be inverted and a tuft of absorbent cotton pressed into it upon the cheesecloth sufficiently tight to prevent it rising when the emulsion is poured into it. Place this chimney into a hole made in a piece of board, or, if a retort stand is at hand, use that. Place a clean stoneware pitcher beneath, having been previously made hot by being filled with hot water and then emptied. This is to keep the temperature of the emulsion up. Now pour the emulsion into the inverted chimney. It will filter perfectly in this way, giving a very clean and beautiful emulsion, with no grain. As soon as the filtering is complete, take a six-ounce glass graduate, and having made it warm, pour into it about four ounces of emulsion. Pour the emulsion so that no air bubbles are formed, because these are not easily dispersed in a thick viscous body like this. If any bubbles should be formed, they must be removed quickly by the use of a glass rod or by dropping upon the surface a few drops of alcohol, when they will disappear instantly. The alcohol becoming mixed with the emulsion will do no harm. All being ready, take one of the glass plates, hold it by the top left-hand corner, pour upon the middle a small pool of hot emulsion, tilt the plate, first to one corner, then to another, until it is evenly coated. Drain the excess of emulsion into the graduate, by allowing the glass plate to touch the inside near the top, then no air bubbles will be formed. Allow a moderate quantity of emulsion to remain upon the plate, then lay it down upon a slab of slate, glass, or marble that has previously been levelled, to allow the emulsion to set. Coat all the glass plates in just the same way, and as soon as the emulsion upon them has become set, place them in a very clean rack and stand aside in a clean room, or large

cupboard away from all dust and dirt to dry. As soon as dry, they may be packed back to back with a small strip of thick paper at the ends, so as to keep the faces from touching or becoming abraded This precaution is very necessary, as any defect upon the plate would be magnified many times upon the screen and thus spoil what would otherwise prove to be a perfect picture.

Printing the Transparency.—The plates being now ready for use, select the negatives from which the transparencies are to be made. Supposing the negative is a 5x7 or a 4x5. In either case place the negative in an ordinary printing frame, and upon that part of the negative, from which it is desired to secure a print, place the transparency plate. Place upon this a piece of black paper, then the usual pad, assuming that the negative is quite clean. Place the printing frame in the sunlight, or bright daylight, allow the printing to continue, until, when opening one-half of the frame, and viewing the progress of the printing by transmitted light, or in other words, by looking through both the negative and plate, the shadows present a bronzed and deep red appearance. When this point is reached, remove the plate and place aside for toning.

Tone in the following manner: Either of the two toning baths here given may be used with success, and good colors produced with either. The bicarbonate of soda bath is somewhat quicker in action than the one made with borax, although the borax bath gives a very wide range of tone.

THE TONING SOLUTIONS.

No. 1.

Saturated solution of borax..	2 ounces
Solution chloride of gold (1 grain to oz.)	2 ounces
Water	20 ounces

When mixed it is ready for immediate use.

No. 2.

Water	20 ounces
Bicarbonate of soda.....	60 grains
Chloride of gold solution,	
Acetate of soda	30 grains
(1 grain to oz.)	2 ounces

This should be mixed in a bottle, and well shaken, and can be used at once. Having the toning bath ready, take half a dozen of the plates, lay them face up in a suitable tray (which must not have been used for any developing purpose), trays made of hard rubber or some composition answer well for this purpose, because the bottoms of these trays are uniformly flat; pour over the plates a gentle stream of water, preferably from a pitcher or jug, until the plates are well covered. Do not employ a heavy stream of water. This will drive the plates out of position and they will become mixed up in the tray. Rock the tray slightly, so that the surfaces of the plates become exposed to repeated changes of water. In the course of a few minutes, pour the water off carefully, and wash again with clean water. This operation must be repeated four times, the object being to eliminate nearly the whole of the free silver contained in the gelatine film. As soon as the washing is complete, pour off the water and pour on the toning solution. Rock the tray gently, and watch the result by removing occasionally one of the plates, examining it by reflected light from a piece of white paper or cardboard. Do not try to judge the color by looking through them. Always examine by reflected light. Do not carry the toning too far. A slight change in color is all that is necessary, because they will dry down to a color fully three times as deep as that presented while wet.

As soon as the toning is complete, place the plates into a tray of clean water, to wash off the excess of toning solution, then proceed to fix the image by placing the plates in the following:

Water	20 ounces
Hyposulphite of soda	2 ounces

Allow the plates to remain in this bath for ten minutes, rocking the tray occasionally. As soon as this operation is completed, pour off the solution, and wash the plates well for five minutes, then place them in an alum bath composed of white powdered alum one ounce, water ten ounces. Be sure this

solution is clear and clean. If there should be any undissolved alum floating in the liquid this will mark every plate, and cause innumerable spots. Five or ten minutes soaking in the alum will be sufficient. The plates must then be washed in running water for half an hour, then the surfaces carefully wiped with a light tuft of absorbent cotton, in a stream of water, then placed in a rack to dry. It will be observed during drying that a considerable change in color takes place. Those that are toned to purple-brown show up upon the screen most brilliantly.

If any of the emulsion is left over, it may be kept in the crock in which it was melted, and kept for future use, and that portion of emulsion that has not been melted, but still remains in shreds already washed may be kept in good condition for about six weeks by pouring an ounce or two of pure alcohol over it and covering with the stoneware lid that is usually supplied with this class of stoneware.

In all the operations, from the making of the emulsion to the finishing of the printed plate, there will be no need to fear a fogged plate. All that will be necessary will be to perform the various manipulations under a light not stronger than that emitted by an ordinary kerosene lamp. The emulsion being extremely fine, possesses practically no grain. Any one will find in following these directions, that they will be rewarded with complete success.

A PHOTOGRAPHER OF NEW YORK SOCIETY—A. F. BRADLEY

BY SIDNEY ALLAN.

THE public has grown so used to a steady improvement in portrait photography that it hardly ever gives a thought to how quickly this development has really taken place. It is only a decade or so ago—we all remember the day—that, on visiting a gallery, we were ushered into a little, badly furnished space, quite respectable-looking, to be sure, but by no means painfully tidy, which served as reception room. And the dressing rooms were so awkwardly and uncomfortably equipped that even an actress used to traveling under all sorts of conditions would scarcely put up with it. Now the elevator takes a visitor into a spacious hall, furnished with all that modern luxury can think of. Elegant settees, gilt tables, columns and expensive rugs greet our eye, and the whole place looks very much as if we had strayed into the vestibule of a rich man's house and not into a photographic gallery. And the dressing rooms are veritable little showcases of elegance, such as many a lady of moderate means would be glad to have as her own boudoir.

Among the most lavish Metropolitan establishments the Bradley Studios has to be mentioned first. It displays all the taste and refinement that one expects of a place where the *haute volée* of New York congregates.

I have often asked myself, Who is really the photographer of the Four Hundred? It is a difficult question to answer. All Fifth Avenue photographers claim that distinction, but I believe that nobody is more entitled to it than the Bradley Studio, which caters directly to that class of society. One grows conscious of it as soon as one enters the studio. And the luxury displayed does not merely cling to the reception and dressing rooms but also extends to the process of picture making.

Society folks are apt to have their own ideas about how they would like to look in a portrait, and often the scene painter and property man have to be called in before their whims and fancies can be satisfied. Feminine beauty has become a matter of public dissertation, and ladies beauty and position are now more widely known than in the days when Van Dyck and Titian painted them. It is a kind of

adulation that they cannot resist, and they want to look at their best, as important and dignified as possible.

For that reason the introduction of simple backgrounds, of silhouettes against a mere suggestion of actual scenery has not met with particular favor in their ranks. They still prefer elaborate settings. They may have traveled abroad and become infatuated with some portraiture of Romney, Reynolds, Gainsborough—or it may be some modern master like Sargent—and wish to be portrayed in that fashion. The photographer must be prepared for any such emergency and often goes to the trouble for a single client of having a special background painted or a special balustrade, staircase or gateway constructed. A F. Bradley is a master of these pictorial arrangements. He has as sound a knowledge of the principles of portraiture as a painter has. He is an artist in feeling and knowledge and the Bradley prints are known for the elegance and good taste they display. He proves that one can please the public and yet remain artistic.

But they represent after all a curious phase of photography, these portraits of Bradley. They are artistic, there is not the slightest doubt about it. The management of tone in most of his prints is superb, quite up to the best accomplishments in that line. And yet—do they not look a trifle old-fashioned, these elaborate compositions of his, built up with accessories and backgrounds to veritable *tableaux vivants!*

His portraiture is a strange mixture of two distinct styles of portraiture, that of tone and that of the excessive use of paraphernalia which was rampant in studios twenty years ago. As far as I know he is the only one of our leading photographers who still clings to the papier maché period, and this peculiarity gives to his work quite a character of its own. And I cannot say that I dislike it. A millionairess is perhaps after all best depicted standing on the balcony of her Newport mansion, or on the head of a staircase ready to receive her guests. It may be somewhat stilted and theatrical, but it is in perfect harmony with coronets and trains, with decolleté busts and jeweled stomachers.

Society itself is naught but a play. Each lady according to her wealth and position has to play a certain part, and walks through it as well as she can, tricked out in some fashionable or fantastic array and occupied with the "laborious trifle" of looking well.

Why then not have oneself represented like a Watteau shepherdess as long as one looked pretty in such a costume at the last fancy ball? Life would be too sad without such harmonious bagatelles and precious nothings!

And surely there is no fault to be found with any work that is true to the subject it depicts. Bradley, moreover, understands how to imbue each picture with a touch of his own personality. He has attained certain technical accomplishments, and applies them to all his work, and goes artistically as far as he is allowed to go. He works with limited aperture, and is particularly fond of low-keyed compositions with one strong source of light, and only the nervousness of a sitter can induce him to let in more light. Peculiar is also his aversion to reflected light. He considers it unecessary, and no doubt if one can get clear definition of the shaded side of the face —as he invariably does—without white screens, mirrors, etc., it is useless to apply them. There is always something untrue about reflected light. In strange contrast to Parkinson and Goldensky, who are veritable wizards of screen manipulation, Bradley has only one black screen (to still shut out more light) in his studio. On the other hand, his studio is very rich in backgrounds; it reminds one of the drops in a theatre. And then he has a whole room of properties, and that on Fifth Avenue where the rent is so high. I forgot to ask him how many scene shifters he employed, but it must be quite exciting in the Bradley Studio when a sitting is on; and I do not wonder that he occasionally has to take resource to "rests" when a scene is built up around one of his lady sitters.

But Bradley is not solely a depictor of

society ladies. On the contrary, he is peculiarly versatile. What an unerring reader of character he is he has shown in his forceful portraits of men, like those of W. D. Howells, Gen. Miles and Bishop Potter. And he is equally efficient in child portraiture, as we can notice in his children of Mrs. C. Vanderbilt, Master Duryea and the little niece of Senator Clark.

His business card informs me that he also makes a specialty of home portraiture and out-door groups, and that the studio is fully equipped to take children at play, interiors and pictures of home life, panoramic views, horses in action or yachts under full sail.

F. A. Bradley is just the man to meet the manifold whims of society people. The modern photographic studio is more and more encroaching on the dominion of the first-class picture store. There are people who want their portraits artistically framed, others want a likeness in water color, an etched effect, or an old discolored daguerreotype restored. Some even want a specially successful portrait executed life-size in oil. The Bradley Studio offers all these latest productions of the photographic (?) art.

Varicolored carbons on silk and gold plate, sepia art proofs, English mezzotints, miniature aquarelles, miniatures on ivory, colored sketches, pastels and oil portraits—all these can be had at "nominal and consistent prices;" strange to say, they are invariably of a high artistic character, seldom met with in photographic galleries. Among the oil paintings is a life-size portrait of Bishop Potter (on exhibition in the reception room) which is a most forceful bit of painting, of which even an Alexander would not need to be ashamed and which I personally would prefer to most portraits that can be seen in the ordinary run of exhibitions.

In this peculiar, really unphotographic fashion the up-to-date photographic studio has become a huge establishment of diversified interests, growing in importance with the steadily growing feeling for luxury in our population.

WATER COLOR IN MULTIPLE GUM PRINTING.

THANKS to the pliancy of the gum process, enlightened workers devoted to artistic speculation have no longer to enquire whether we can obtain a work of art through the medium of photography. Henceforth abundant proof is forthcoming, through the labors of those who have attained the mastery in this medium. The process will not fail artists towards that end; it only remains for them to do it justice.

These enlightened souls I have mentioned are going ahead, and ask themselves another question involving a larger conception, greater fascination, and results more encroaching upon the realm of art. They ask whether, by one of the varieties of the gum process, viz.: successive impressions (multiple printing), we cannot succeed in imparting to the image produced by the negative that most important item in pictorial illusion —color.

While fully admitting that color-photography already gives color, and will probably do so more satisfactorily in the future, they must keep steadily in mind that color-photography, being in its essence purely mechanical, only *sees,* but does not *feel,* Nature.

It is imagination which exercises a considerable influence upon our sensations of color, modifying what we see. With the painter tones often assume a value rather representative than real. "What a tone!" said Delacroix, pointing to a muddy pavement. "Well, now, if anyone had asked Paul Veronese to paint a beautiful blonde with that toned flesh, he could have done so, and the lady in his picture would be a beautiful blonde." Delacroix was absolutely right. A detached slice of Nature, cut off and placed before our eyes, must always be unfit to present to us an impression of Nature. To do so it must express the

artist's own feeling, which he tries to make us understand and share; now this feeling completely alters the perception and induces the artist no longer to *produce the exact* color of objects, but to *interpret* that color. In other words, a picture does not by real tones give an illusion of Nature, but ought to suggest to us this allusion by the exactness of the tones produced in the mind of the artist from his own sensuous perception of them. If it were otherwise, how could one by simply using black and white produce a work of art? Nevertheless, we know such is possible.

An entire world, therefore, lies between the reproduction of color *as it is*, and *as it is felt*. This explains the meaning of the question I have just asked.

During my whole photographic career I have never come across any problem more harassing or more difficult of apprehension; this is why I have done my best, in a modest way, to elucidate it.

The good souls who have hit on multiple gum printing are evidently right. Gum is really a very near cousin to one of our painters' mediums—water-color, and, like it, is a method of drawing worked with water only. All good gum ought, in fact, to be worked by the swelling of the coating, and pouring on liquid in large or small quantities. If we therefore employ several coatings, of different and transparent colors, and make our coatings thin enough to preserve transparency without dryness, we can include gum in the definition of water-color.

The solution of the problem would therefore seem to be close at hand, and it is really very fascinating. Can any one doubt that water-color is the most charming and independent of our painting processes, equally adaptable to realism and idealism, most versatile in manipulation and delicate in effect, and besides, mark my words, most capable of permitting the artist to develop qualities of a personal nature?

Argument avails little, and there are many theories attractive but impracticable, so we must see whether in calling on gum to take the place of water-color in low and brilliant hues, we can obtain a result so encouraging and so completely satisfying as to induce us to pursue an onward course upon this novel route.

I have made the attempt, and I now believe I can confidently assert that a delightful horizon is unfolding before our eyes, and the following leads me to make this assertion.

In principle, multiple gum printing consists of a mixture of 50 per cent. gum solution in variable quantity, with a saturated solution of bichromate, and a pigment chosen for a particular effect or subject. The mixture spread upon a good drawing paper becomes sensitive; it is printed under a negative for the time necessary to make the emulsion insoluble in proportion to the values of the negative. The first image is developed with water, and allowed to dry; upon this first image when dry, a second sensitive coating is spread with another color; you print again, taking care to have some arrangement for perfect registration, then develop anew, and so on for each successive coating. Passing by the method of registration possible in many ways, choose your own method, provided it works well and the arrangement does not prevent the back of the paper being acted on by the water. You can select any kind of paper you like, but I shall call your attention to the kind to use. It ought to be subject to the least possible variations during manipulation. You can easily procure commercially machine-made papers, which, if moistened beforehand, or sized again, show little or no contraction and expansion. Next I shall treat of the sensitizing mixture, the different colors, and the composition of the various colored coatings, and how it is done.

All gum-workers must have discovered how hard it is to make a normal sensitizing mixture. Such are its vagaries that the richer the coating is in the gum, the poorer it becomes in sensitizing salt, and *vice versa*.

Notwithstanding this glaring anomaly, we can secure good results, and, considering the uncertainties and terrible fickle-

ness of the process, we must carefully watch the exposure. I use the word "terrible," because the duration of exposure is a matter of no small trouble.

Our task is to get rid of this uncertainty, and for some time I have made my mixture in such a way that the gum and sensitizer always remain in the same proportion. I do not present it as normal or strictly mathematical, but I have struggled to make the condition of drying equally easy, whether the mixture is rich or poor in gum.

That proportion is as follows, with 100 centimetres of water, in grammes:

Gum	18	20	25	30	40	45	50
Bichromate	6	6.6	8.3	10	13	15	16.6

Wishing to make a 30 per cent. gum coating, I put into a graduate or dish 100 centimetres of water, 10 grammes of bichromate powdered as in the above table, until the bichromate is thoroughly dissolved, and I add 30 grammes of gum arabic in powder—it will be quite dissolved in from ten to fifteen minutes. The gum thus dissolved in a concentrated bichromate solution will have all its molecules thoroughly impregnated with the sensitizer, and thus reduce the uncertainty of exposure. The mixture can be prepared just before use or the night previous. It keeps for about a week or more. I have used it after five days, without any appreciable difference. Upon cooling, the bichromate does not crystallize.

Water-colors, in tubes, can be used, but in choosing the palette, as we have only to deal with tones super and juxta posed, we must use absolutely transparent colors of well-known solidity. Then we have another selection to make. All colors do not remain the same when exposed to light; whether from reaction of the bichromate or oxidation of the gum, I cannot say; and some colors lose their freshness and tonality, and even completely change during development. For instance, strontian yellow becomes brown, and on the other hand, if you want to get rid of all the bichromate remaining, and use an alum bath, certain colors become modified, especially if the alum bath has acetic acid in it.

Thus brown or burnt madder loses its burnt tone, and becomes natural madder. Before choosing your palette, experiment with all your colors, as the china-painter does, on account of the changes caused by baking. The first method which suggests itself to the mind is the three-color printing process—red, yellow, blue and black. Having tried it, I soon came to grief, only producing vulgar chromos, especially if the colors used were ochres or siennas. This is all wrong. The chromo is the stumbling-block, and the trichrome process is, at all cost, to be avoided. Like the painter in water-colors, we must never use red, yellow or blue in their natural state.

Three coatings are quite enough; more lack freshness and give duller results. How can we, then, reconcile these two contradictory terms: a minimum of coatings with a maximum of gum? By a simple and delicate method. You must ask what is the dominant tonality of your picture, and, having noted this, make up your mind what will produce it, and then ask yourself another question, What are the two, three, or four tints which by superposition or juxtaposition can produce the combined color effect of the picture as a whole? To answer it you must first have learned what result is produced by two tones both superposed and juxtaposed. A color is greatly modified by association, and quite changes when another is placed over it.

You are also obliged to consider that tones placed touching and spread over one another remain permanently to be seen from a distance, or taken in at a single glance. If your mental capacity for keeping separate those things which are closely allied is imperfect, look out for unexpected effects.

Remember also that all these distinctly separate tones will not be perceptible in the real light which will light up your picture, but will appear right and nice in the imaginary light which seems to light it. What is important is, not to strive *to be true*, but to *suggest the truth*, if you remember the beautiful blonde face in a mud tone which Veronese could

have painted. Simultaneously with this analytic work you must apply your mind to a synthetic task which will make you determine the order in which the various tints must be applied to the paper to porduce the ensemble, being always careful to keep for your last coating the predominant tone of your picture. Having thus determined, take a note of it, and follow those instructive lessons scrupulously when at actual work. Every subject has, in fact, a succession of tints peculiar to itself. Let nothing tempt you to reverse this order, and it is quite impossible to establish any rule as is laid down with more or less success in the three-color process. All that can be stated with certainty is that it is always better to go from the light to the darker tones, for it is easier to add shadows than high lights; moreover, it is in this way water-colorists work, but oil-painters just the reverse. The cause of this is the difference of the mediums employed, and as our materials are the same as the water-colorists', we must imitate them. We ought to take a summary glance at the work itself, which, in theory, is exactly the same as ordinary gum in the spreading of the coating and non-automatic development, and according to requirement you can utilize the three stages of the coating—of development, drying and after-drying. Most excellent instructions on this subject are given in M. Puyo's treatise. I have only to impress upon you that the gum during development must be so swelled as to be workable all over with a touch of water, this is a *sine qua non;* all prints over-exposed require vigorous friction to reveal the image, and if this is bad in one-colored gum it becomes abominable in multiple-printing.

A granular and dry image will not give us any of the qualities of softness, transparency, and unity of tint as in water-colors. The water-colorist not having thick oils (for a good water-color is entirely devoid of body color) must work at the start with his lights, and afterwards draws constantly on his reserves. These reserves are intended to leave the bright parts alone, or finally to produce other tones which, contrasting with those superposed or juxtaposed, will have the desired result. The multiple-gummist works in the same way. Drops of water from a squeezed sponge or the very light "caresses" of his brush during the drying period are his reserves.

While development proceeds you must constantly bear in mind the other tints which are to follow, and the effect each will produce here and there by its juxtaposition and superposition. It is a delicate business, but not more difficult to learn than the work of the water-colorist. No part of the work is automatic, and an artist can thus display his individual perceptions. Moreover, by using colors of a luminous transparency he can very clearly produce the light of the sun, his faithful fellow-workman. He can detach artistic photography from its too sombre surroundings, for sunlight as well as gloom has its mysteries.

The charming effects produced are worth the trouble. The acme of the process is the perfect union and melting of the tints into one another without giving the impression here and there of a tint applied by inking the doll without reference to the surrounding tonality.

The journey is a delightful one, fascinating and illimitable, and demands forehand considerable training of eye, hand and memory. This is a small equipment and easily acquired by those possessing the artistic temperament.—*The Amateur Photographer.*

Soap as a Preventive of Fog.—Hofbauer, in the *Photographische Mittheilungen,* points out that by the addition of a slight quantity of Castile soap to the pyro developer any tendency which it may have to fog the plates in consequence of the presence of an undue proportion of alkali is prevented. He suggests preparing a solution of about two grammes of soap to 100 c.c. of water, and using this solution instead of plain water when compounding the developer.

To Make Carbon Solar Prints.—Gelatine, refined lampblack, bichromate of potassium, and water, are mixed in suitable proportions. The vessel containing these ingredients is placed in a water bath, which is heated until complete admixture and the requisite degree of fluidity are reached. It is then applied to the drawing paper upon which the picture is to be finished in the form of fine spray, by means of an air blast from a cylinder charged with compressed air. The coating thus applied is granular in form, which permits the light to penetrate it to such an extent that the middle tints are saved from being washed away in the development. The pigment dries quickly, when it is ready to be exposed to the image of the solar camera, and the requisite exposure is only about one-tenth to one-fifth of the length of that required for silvered paper. The picture is developed by washing off the unimpressed or soluble pigment with hot water. For this purpose the print is wetted, and placed in an upright position on a stretcher covered with muslin; the water, under considerable pressure, is showered upon it through a rose connected by a short hose to a double faucet supplying it both with hot and cold water. The temperature and pressure are easily regulated by increasing or lessening the flow of either or both at will. Finally the print is washed to remove the little remaining chromium salt from the paper which being done, it is ready for mounting. The surface of the print is entirely without gloss, and the "tooth" of the paper is improved by the stippled effect consequent upon the method of applying the pigment. When required for water-color work, a neutral gray is used instead of lampblack alone.—*Photographic Reference Book.*

Cutting Glass with Scissors.—A writer in one of the foreign journals calls attention to an accident by which his isochromatic screen became broken and he desired to cut a portion of it down in the shape of a circle. He resorted to a method little known at the present time. If the method is one that can be depended upon to work under all conditions, the tip he gives is a valuable one. He goes on to say that if the sheet of glass to be cut and the shears or scissors to be used in cutting are immersed in a deep basin of water and the operation carried on under water, the glass can be cut or trimmed very much as if it were a thick piece of paper or cardboard. It is claimed that shears, glass and hands must be kept wholly submerged during the operation of cutting.

A WRITER in *Photographic Scraps* says that, if a bromide print is placed in a weak solution of mercury bichloride for a few seconds only, the color of the print will change to a rich brown-black; the print must be taken out of the mercury and rinsed immediately this tone is obtained or bleaching will commence. This method is one of the easiest and quickest ways of producing a good brown tone in bromide prints. Mercury can also be used to give a tone to the whites of a picture when the contrasts between blacks and high lights are too harsh. The print is placed for a few seconds in the mercury solution, then removed and rinsed; it is then immersed in a very weak solution of sodium sulphide; the sulphide combines with the mercury in the pores of the paper to tone the high lights of the print. When the whites are sufficiently toned the print must be immediately taken out and washed. By this means the high lights can be toned to any depth, the darkest portions of the picture being unaffected. Care must be taken, however, that only a very weak solution of sulphide is used, or the lights of the picture will darken too rapidly, and the print will be spoiled before the sulphide can be washed off.

The Dusting-on Process.—Herr Hirschfeldt, in *Apollo,* calls attention

to this widely applicable method, the essential features of which are given below. Stock constituents for the sensitive mixture are prepared as follows: No. I. Gum arabic, 8 parts; glucose, 20 parts; honey, 4 parts; distilled water, 20 parts; when dissolved, add alcohol, 3 parts. No. II. Ammonium bichromate, 1 part; water, 10 parts. For use, mix 1 part of No. I, 2 parts of No. II, and 3 parts of distilled water. A clean and slightly warm glass plate is coated with this mixture by pouring on like collodion, and the excess is drained off, after which the plate is placed in a level position to dry, a temperature of 50 degs. Centigrade being suitable. Let it be supposed that the glass plate is now exposed in the printing frame under a positive transparency; those portions of the film on which light acts will lose their hydroscopic property or their power of absorbing moisture from the atmosphere, while those portions which were protected from the action of light rapidly absorb moisture and become sticky. If then the exposed plate, on removal from the printing frame, is exposed for a few minutes to the air of an ordinary room, a latent image in various degrees of stickiness will be produced, and if plumbago or any suitable fine powder is brushed on or applied with a powder puff, the powder in adhering locally will produce a positive transparency, but laterally reversed. Similarly, if the original was a negative, we shall obtain a reproduced negative laterally reversed, but in either case a kind of mechanical fixing is required as a preparatory step to removing the now superfluous chromium compounds. The reproduction is coated with plain collodion, and as soon as the collodion has set, the plate is soaked either in pure water or in water acidulated with a small proportion of nitric acid, say about twenty drops to half a pint. After this the plate is rinsed and allowed to dry.

Dr. Eichengrun, in the *Bromide Monthly*, gives the following formulæ for obtaining warm tones on gaslight papers, by means of prolonged exposure and restrained development:

Edinol	5	grains
Acetone sulphite	25	grains
Sodium carbonate	17½	grains
Water	1	ounce

All that is required is to increase the exposure from three to six times, and then to use the above developer, and sepia or brown tones are at once obtained. If still warmer tones are required, the exposure may be increased still more. For pure brown tones Eichengrün suggests the following:

Edinol	5	grains
Sodium sulphite	50	grains
Water	1	ounce

which, as will be seen, contains no alkali. No increase of exposure is here required, and by doubling the amount of sulphite the tone becomes still warmer, approaching red.

Some of our readers may remember a recent case in which a firm of professional photographers was cast in damages by reason of the overflow of a sink in which prints were left to wash, the flood having done much damage to the contents of the rooms below. To see that the outflow pipe is clear is not always enough, as a scrap of paper, a print, or even labels washed off bottles may cover the outflow and make it almost watertight. Those who have photographic sinks fitted on upper floors would do well to avail themselves of two precautions: first, an overflow opening in the sink itself; and secondly, what builders call a "safe" on the floor, the safe being a leaden covering to the floor under and in front of the sink, the edge of the covering being very slightly raised, say one-fourth of an inch, and the safe is provided with an outflow into the open air. When a safe is provided there is no constantly damp place on the floor in front of the sink—no small advantage.—*Amateur Photographer.*

By Rinehart, Omaha, Neb.

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CONSTRUCTIVE CRITICISM.

BY JAMES STUART CAMPTON.

I HAD hoped to have followed my article in last month's issue with a little further discussion of the photograph reproduced, and make a few suggestions for poses which might be effective for that subject, but lack of time compels me to defer them until the next number.

Instead, I will say a few words about criticism, and its value to students.

I remember when I first entered a class in an art school. I was engaged one evening in drawing from the cast, and had selected a fine head of Voltaire upon which to work. The character was strongly expressed, and had I but known it, it was a difficult subject for a novice to attempt. I had heretofore confined myself to drawing in outline, and had not ventured on the subtilities of shading. But I had the feeling that my teacher was holding me back rather unjustly, and determined to show him how clever I really was. So I started in with great enthusiasm, and worked like mad for nearly two hours while he was viewing the work of the rest of a large class. I was congratulating myself on my wonderful progress, and felt that the drawing was nearly completed, and was wondering just what words of commendation he would offer me. Suddenly I was conscious of him standing at my elbow, viewing my work in silence. With a feeling of exultation I turned to him, but wishing to appear modest, said: "I only started this drawing this evening, and haven't gotten very far along with it. I can't seem to get the shading right." "Hm!" he replied; "I don't care anything about that—I was looking at the drawing of it. The proportions are all wrong. Turn your paper over and start anew, and confine yourself to the outline. You'd better try a simpler subject next time, anyway."

Duly crushed, I meekly obeyed, and worked faithfully for the rest of the week in the endeavor to draw the thing in correct proportion, and found how really difficult a subject it was and how inadequate I was to copy it. I then compared my efforts with the "drawing" that I had produced in two hours, and was amazed to find that what I had viewed with such complacency, was a mere caricature compared with the one in outline, defective as it was. It taught me a valuable lesson in humility, and that one may not hope to produce anything really creditable without a great deal of study and hard work. However much he may be impressed with the idea that he is a fledgling genius, and is destined to amaze the world by his lofty flights, he will find that he must remain for some considerable time in the pinfeather stage, and that he must pass through many heartrending hours of uncertainty as to whether the wings that are sprouting will prove to be those of a soaring eagle, or merely a barnyard fowl.

There is nothing for him to do but to "plug" away with grim earnestness, in the determination to conquer or die, and out of his efforts will be born a skill to accomplish, and, what is fully as important, the wisdom to judge himself. And while the possessor of true ability may oftentimes be really handicapped by a growing sense of his own littleness, and is blind to the true excellencies and promise in his work, it is also true that everyone needs to be "whacked" occasionally by just criticism to prevent his bump of egotism from being abnormally developed.

This has often been suggested to me by studying the work of photographers. I am willing to grant all the praise that is due to those who labor with the camera, and feel that results have been achieved that are truly remarkable, in some instances. Oftentimes I am moved by some clever piece to exclaim, "The one who produced that is an artist!" implying not only the possession of innate

feeling, but knowledge and training in the execution. But how frequently is it the case where this same innate feeling has led to a happy choice of subject, with a more or less charming result, that the author of it has had his head turned a bit by the enconiums that are heaped upon him. He thereafter moves about in a rosy haze of self-satisfaction, which effectually blinds him to his habitual shortcomings and throws an aureole of beauty around work that is marked by glaring defects. And alas! adverse opinions of his work produce only injured feelings, or are lottily ignored.

At such times I long to set the zealous picture maker in the class room of some art school, where he may meet a stern and righteous critic, who delights in breaking the heart of the presumptuous tyro, and who effectually relieves the tightening of his hat band.

A curious idea seems to find lodgment in the minds of some photographers who "believe in artistic work," that the road to its achievement may be short and very direct. If such an one is proficient in photographic technique, he believes he can attend a course of lectures, read a few books, etc., then shut his eyes and turn around three times, and lo! he has become an artist. Whereas he used to make "pictures," he now makes "pictures, plus art." It is like changing the style of mount, all you have to do is to stick it on. It has not dawned on these people that art is the unfolding of the inward sense, and may not be accomplished suddenly. You cannot make a plant bloom in an instant by dousing it with a bucket of rain water. But night after night let the dew gather silently upon it, and be distilled each morning by smiling sunbeams, and in time the buds will shoot forth and expand into flowers, until the air grows heavy with their perfume.

Equally fallacious is the tacit assumption of some who have won recognition in the photographic world by work of considerable artistic merit, that they have imbibed all the knowledge they need, and, having sucked one orange dry, they have no further use for orange trees. They feel entitled to a pedestal, and perpetual supremacy over their more humble brethren. But they will find that, while pedestals are eminently suited to works of art, they are not made for artists. They are too narrow and do not admit of the expansion of progress.

Be wise, O members of the craft, and look open-eyed straight at facts! Will you not admit that you are just beginning to progress, and to awake to the possibilities of photography as an art? Measure your status as artists by the actual knowledge you possess, and how much you would be able to accomplish if your hand had to produce that which the sun and lens execute for you. That is to say, that you should be able to analyze the result, and determine every point that combined to make it effective, the same as you would, had it emanated from your brush. Tell me furthermore, do you regard your craft with the same sacred devotion that the painter pays his art? Is it the exacting mistress that will demand any sacrifice, the utmost self-abnegation from you, and you will grant them cheerfully? Is it the proud, imperious goddess under whose frown you faint, and in whose smile you live and are transported to a world of ecstacy? When you can answer these questions with an "Aye!" you may call yourselves artists, and present your works as true children of your brain. And it shall pass from all reckoning whether the medium was brush or camera.

The painter must give years of arduous and devoted study to learn the methods of his craft. He must spend years more in acquiring experience and absorbing impressions before he can begin to evolve ideas that are worth while, and finally after a lifetime of serious, devoted effort, he will declare that he is just ready to begin. Can a photographer, then, hope by a little brief activity, a little dabbling below the surface, to accomplish what his brother with the palette will affirm is measured by the scope of a lifetime? If he desires to answer the threadbare query, "Is photography art?" he will submit himself to a train-

ing as arduous, a striving for improvement as incessant, a life as faithful to ideals as the painter, and we shall await his reply with anxious and fraternal interest, and be ready to add a tripod and shutter to the paraphernalia of the Muses.

It is almost superfluous to say that the text of my little sermon, in which I have reversed the established order of sermons by giving in closing, is: "Art is long." Therefore see that not only your lenses, but your courage, and perseverance, and enthusiasm, have not too short a focus.

SOME NOTES ON HOME PORTRAITURE.

BY JAMES MASTERS.

THE following article, which we reprint from a recent number of the *Amateur Photographer,* bears directly upon a question which has frequently been discussed in these pages and which is coming to have more and more of interest and value to the professional photographer. The matter of "Home Portraiture" is one upon which too much light cannot be shed and the writer of the following lines, speaking from the standpoint of a professional, knows whereof he speaks. (Ed. W. P. M.):

ALTHOUGH the following notes are written primarily in the hope of helping the amateur photographic worker, there may, perhaps, be found a few hints of interest to many professionals. That it is possible to do good portrait work in an ordinary room no one will care to deny, but that the room offers advantages over the majority of photographic studios is a statement hardly likely to prove acceptable to the average professional. The fact, however, remains—and it only requires a fair and impartial trial to prove it—that, except in a few minor details, an ordinary fairly lit room is as good, and in many respects better, for the purpose of portraiture than is the average photographic studio. It may perhaps be argued that no one would go to the expense of erecting a studio if he could work equally well in an ordinary, fair-sized room. In the early days of photography, a well-lit studio was an absolute necessity for anything like a reasonable short exposure; but with the extreme sensitiveness of modern dry plates and the rapidity of present-day lenses, the necessity for an abnormal quantity of light for indoor work has altogether ceased to exist.

To the sitter the ordinary room offers the advantage of his being in everyday surroundings, and there is also the important fact that the lighting is more natural than is the case in most studios. Many professionals will at once object to the use of a room on account of the entire absence of top light, but if they would only stop to consider the matter they would come to the conclusion that what seems to be a defect is, in reality, a decided advantage. Is it not strange that, after having his studio erected with the usual, and generally supposed necessary, top light, the photographer sets to work, by means of blinds or other contrivances, to cut off the light from this source? Some modern studios have only a side lighting, which is really all that is required, but there are still many professionals who would feel quite unhappy had they to work without an ample amount of top light, light which is not only unnecessary, but tends to give a false and unnatural effect. The arrangement of the majority of studios seems to have been originally made with the idea of giving an open-air effect of lighting; but no one would reasonably expect to see a lady in evening dress standing in a (painted) meadow or by a rustic bridge; neither is it usual to see a gentleman, minus his hat, sitting in an elaborate chair against an interior background. with a scheme of lighting which would

suggest that he is under the open sky. Such incongruities as these are, however, often perpetrated, more especially by the cheap, third-rate professional; whilst the amateur, without the means at his disposal for producing such effects, generally gives us (whatever else his work may be, and unless his negatives are hopelessly under-exposed) a fairly natural scheme of lighting. Speaking from the pictorial point of view, another defect of the studio is that there is generally *too much* light; and by this I do not necessarily mean that the quality of the light is too good, but rather that the source by which it enters the studio is too great, and therefore *concentration* of light on the sitter is not so easily effected as it is in an ordinary living room.

These rambling notes on professional studios may possibly be of little interest to the average amateur, but it is hoped they will convince him that in his own everyday surroundings he is not handicapped to the extent he is liable to think he is as far as portraiture is concerned. Varied effects of lighting are obtainable with very little trouble, less in fact than is necessary to the professional in his well-appointed studio. The latter is apt to use his camera far too much from the same standpoint, and to depend for any variation in the lighting upon altering and manipulating a complicated system of blinds. The amateur, however, as a general rule, depends on light from a comparatively small source, as his "background" more often than not is of very limited dimensions, any radical change in the position of the sitter is altogether out of the question. The only thing then to do is to shift the camera, and it is surprising what a variety of effect is obtainable by this very simple expedient.

(The writer accompanies this article with several half-tone illustrations of portraits made in the home which show honesty of treatment and exceptionally good portrait qualities. A series of diagrams go with these illustrations which it is impossible to reproduce.)

It is a difficult matter to satisfactorily photograph a large group in the home, and here it is that the use of a studio is a decided advantage. Small groups of not more than two or three persons can, however, be fairly well managed; but if the regulation family group is to be attempted the best thing for the amateur is to take his sitters to the lawn or the humble backyard and endeavor to do his best there.

In conclusion it may be well to state that the writer has had very considerable experience in studio work, and is speaking with some knowledge of his subject.

BRINGING THINGS TO A PERFECT BALANCE.

BY FELIX RAYMER.

THERE has been much said about the proper manner of working "such and such" a light, and possibly I have said as much on that subject as any one else. But it seems to me that the main thing to get straightened out in one's mind is what it takes to constitute an artistic lighting. It is not the working of any light that plays such an important part in the making of a certain picture as it is the makeup of a certain lighting and wherein that particular effect of light and shade is artistic and wherein another effect is a failure. We do not understand what it takes to make one artistic and the other inartistic. If we ask an operator what he looks upon as being a perfectly lighted face, and how the negative should appear, he will very likely tell us something that is different from all other opinions along these lines that it has been our fortune to hear—or at least we imagine it is different. One man will go to some length in telling how he works his light to get certain results, and another will take the same amount of

time in explaining his method, and after all is said and done we are no wiser than in the beginning. I have said much along this line myself, and sometimes I think I had as well never said it, for it seems to me, after having had time to think over the matter thoroughly, that we have had the cart before the horse for many years. What should be done is not to have mathematical calculations handed down to the student for working a certain light, but to give him an education in what a certain lighting is and from whence it derives its value. Every lighting has a different value from all other lightings. This being so, it is best for the student to arrive at the value of a certain lighting, so that he may know just where to use it. It would be a matter of educational advantage to all school children if the art of photography was taught in the public schools. We are taught drawing in these schools, and I doubt if there is one in fifty that can draw a straight line after coming out of the school. Wherein is the benefit of the teaching if it cannot be put in practice? But if the child were taught lighting and shading from a window, so that he could tell roundness and distinguish the proper valuation of certain effects of light as it falls on certain colors, the knowledge would remain with him during his entire life.

This, I think, is where the operator often falls down. He does not know what it takes to make a perfect lighting, and does not know why one lighting is more pleasing than another. It is a well-known fact that we can hardly find two operators who will agree on lighting, or the manner in which it should be made, before the negative is exposed. But it is equally well known that after the exposure and the pictures are made the work of one cannot be told from the other so far as merit is concerned. Now, why are these things so? It is, as I see it, nothing more than a matter of balancing certain conditions so that certain results may be obtained.

First of all, there must be a clear understanding as to what we want to see in the finished picture. There must be roundness to the head, for the head is more or less round. If we have a flat effect there cannot be a fair representation of Nature as we see her. When we look our friends in the face, we see that the head has a round effect, as though it were receding from us. We can see those parts that are nearer to us better than we can the parts that are farther from us. Thus we have perspective and the perspective aids in giving roundness.

Next we must have vigor, or life. To get this, it is an absolute necessity that we have light and shade. If we use only light, and the entire head is enveloped in light, there is a blankness that is anything but pleasing. Thus we lose the life of the picture. Life is secured by contrasts. There must be something to give this life, and the only thing we have for that purpose is to play shadow against light, using the two in proportion to their needs. The more light the less vigor, and of course the more shadow the more vigor, so long as the two are in contrast with each other.

Next, and last, and the one that controls the entire picture, is *flesh*. It is here that the success of the picture hinges. If there is flesh all through the entire composition, there will likely be roundness and vigor. But an absence of flesh in the picture destroys the idea of the picture.

Now to secure this flesh appearance in the picture is the effort of all operators and yet all will go at it differently. It has been my observation that there is a wonderful latitude in working for the flesh tints, as they are called, and that all operators will be safe if they stay within the limits of this latitude, which to my mind is ample. If the idea is followed of having the highest light in the face as strong as it can be made without losing the flesh tints in it, and the deepest shadow as deep as it can be made without losing the detail in it, the lighting will be correct, so far as color value is concerned, and anywhere within these extremes will be correct.

We may lower the tone of the high-lights many degrees and still have good value to them, or we may raise the tone of the shadows many degrees and still have the proper value to them. It is this difference of degrees that causes so many operators to differ in the making of the lightings. One has a certain degree of intensity fixed in his mind, and if it goes above that degree he thinks it too harsh, or if it goes below that degree he thinks it too flat. So it is with all other operators. We have a certain degree of intensity fixed in our minds and we work to that degree at all times. If we see another operator making up a lighting, if he hits our degree of light he is all right in our opinion, but if he misses it, we think he had better take a few lessons in making lightings. But we fail to take into consideration that, after all, these lightings have to be brought to a balance somewhere and that there are other places to bring them to a balance than the operating room. We must not overlook the dark-room, for here a negative may be changed altogether, and often it is far different from what we expected to see when the exposure was made.

It is argued pro and con as to the advisability of having ground glass or clear glass in the skylight. This is a thing that can be controlled in any dark-room, and I venture to say that I can work under a clear glass light for a week and then go under a ground glass light, and at the end of my week there compare the work and no man can tell where either set of negatives was made. First of all, I will have the degree of intensity fixed in my mind, and will work toward that end and will not be satisfied until I have the work showing it. As soon as I get it, it will be the same in the work under one light that it was under the other.

Under the clear light the high lights will be much brighter, and more concentrated, but if they reach the point where I lose the flesh tints in them I would use a head screen, over the head, and thus tone them down until the flesh could be seen. If one head screen was not enough I would use two. The main idea is to get flesh, and as soon as I had that it would be the same as if made under the ground glass light. In addition to this and to make my shadows luminous, as they would be in the work done under the ground glass, I should use a weaker developer. That is, it would be weaker in the developing agent and more dilute. This would have a tendency to soften the shadows, giving the detail that is necessary to them. It will be remembered that we were to have the detail in the shadows.

Now if we are working under the ground glass light, the head screens will not be needed, for that is what the ground glass is for. It has the softening effect on the high lights and will tone them down so that detail or flesh can be seen through them. In fact it is often the case that I find they are too low in tone, and I have to use a different developer from that used under the clear glass. I nearly always use the developer stronger in the agent and less water.

Thus it will be seen that it is a case of balancing. It is so with all operators that understand what it takes to make a good lighting. First of all they have a certain effect fixed in their minds which for want of a better name we have called a degree of intensity. This degree of intensity is confined within the limits I have mentioned. The highest light may be as strong as one can make it without losing the flesh tints and the deepest shadow may be as low as one can make it without losing the detail. Anywhere within these extremes the degree of intensity will be in perfect accord with our preconceived ideas of a perfect scale of light ranging from *almost* white down to *almost* black. But never should the absolute white and black be reached. So the natural deduction, after arriving at this stage of the proceedings, is that if we have a light that has a natural tendency to work with great contrast, such as a narrow light, a window, or a clear glass light, the effects secured under it should be balanced

in the dark-room. If the light has a natural tendency toward flatness, such as a large double-slant ground glass, it should be balanced in the dark-room also. Of course, the balancing will have to be different for each of the lights. But first know what degree of light you want and then do the balancing afterwards.

OIL PRINTING.

THE process known as oil printing was demonstrated before the Leeds Photographic Society on the 7th inst. by Mr. Harry Wade. The following notes of his remarks should be sufficient to enable any of our readers who are interested in the method to try it for themselves with every prospect of success.—(Editor.)

Oil printing depends upon the repelling action which a moist film of chromated gelatine exerts towards oily pigments or inks, which action becomes modified by exposure to light, the parts most affected acquiring an affinity for the ink in direct proportion to the light action. Paper, therefore, is coated with hard gelatine, sensitized with potassium bichromate, dried, printed in daylight, washed free from the bichromate salt, and then "rolled up" with printer's ink.

Coating the Paper.—Although carbon single transfer paper has been recommended for the purpose, Mr. Wade deprecated its use, as the gelatine is overhardened; he preferred to coat his own paper. A stout paper should be chosen; thin material would not stand the rough usage the print has to undergo while wet. A smooth surfaced cartridge answers well, and should be cut a little larger than the print required to allow handling when inking, as the roller has a tendency to pick the paper up. It is coated with a hot ten per cent. solution of hard gelatine, either by floating or flowing. The demonstrator adopted the latter method, supporting the paper on a sheet of glass, pouring a pool of hot gelatine in the centre, tilting until the paper was covered to the edges, and then pouring off the superfluous solution, just in the same way one would varnish a negative. Dry paper may be coated in this way, but it is better to damp it first, as in the former case the inking roller has a tendency to pull the gelatine off from its support. The coated film should be thin, otherwise the gelatine swells too much in the highlights, and there is a difficulty in getting contact with the finer details when rolling up.

Sensitizing.—The film is allowed to set, and then the paper hung up by a corner to dry. It is sensitized by immersion in a five per cent. solution of potassium bichromate for two or three minutes—stronger solutions do not seem to influence the results—and again dried.

The Printing Speed of the Paper. is rather quicker than P.O.P.—a decided advantage in winter. A thin negative is required full of detail and gradation in the highlights, one which would give a fair result on bromide paper. The paper should be exposed until the details in the highlights show faintly; a little experience—as with platinotype, which it resembles—will help to gauge the correct depth. The best results are obtained on paper freshly sensitized—within twenty-four hours—although it may be kept coated with the plain gelatine for any length of time.

Inking Up.—The print as it comes from the frame is washed in cold water for half an hour until the yellow color of the bichromate is discharged. It can either be inked up at this stage or dried and worked up afterwards at convenience; in the latter case it will require a thorough soaking in warm water to saturate the gelatine before inking up is commenced. The results are not technically so good as by the former method. Mr. Rawlins recommended solid oil colors,

but Mr. Wade said he had found ordinary letterpress inks equally good. In using solid colors the outer surface should be scraped away and the soft interior worked up on a glass slab with a little turpentine to the consistency of a thick cream; finally distributed evenly with a roller. To apply the ink Mr. Wade used two rollers—one of large and the other small diameter—made of gelatine; also an ordinary rubber squeegee. The damp print—wiped to remove excess of water—is rolled with the roller until inked all over; on continuing to roll the ink lifts somewhat from the highlights and the picture begins to appear. By using the smaller diameter rollers the ink is picked up more quickly. The process of applying and removing the ink alternately allows the operator to build up the desired effects, heavy pressure giving strength to the prints. The image can be removed at any time by a rag soaked in turpentine, and a fresh start made. New gelatine rollers are very tacky, picking up too much ink. This can be remedied by rolling in powdered alum, which hardens the surface. If the print will not take up the pigment, it is a sign of under exposure or too thick an ink. Should it take the color all over and refuse to give it up, then over-exposure or too thin an ink is the cause.—*Photography.*

THE PENNSYLVANIA CONVENTION.

It is just about the right time to say a word to you, brother photographer, on the subject of the Pennsylvania Convention, which meets in the most beautiful city of this or any other country, in May, the loveliest month of the year.

The city of Washington, in May, is paradisical in the glorious sky colors, magnificent landscapes, and the structures of empire which our fathers builded. It is a full rich inspiration to your art and patriotism and while we make no stereotyped assurance that the Convention will transcend all others, we will say that no pains will be spared to make this an ideal convention.

We will engage the very best and most successful photographers in this country as lecturers, who will tell you how they achieved fame and success.

The show of fine pictures will be the best this country affords. If you care for prizes, there will be some fine ones to work for. The social features will be many.

Will you starve your own artist life by staying away from all these sights and sounds? Don't do yourself or your fellows that injustice. Come out into the wide field of our fellowship.

The Executive Board of the Pennsylvania Convention.
A. T. Proctor, *President.*

In the above announcement there may be read between the lines an intimation that ought to be distinctly gratifying to the average photographer of to-day. The erstwhile shout for "art" in its application to photography is not in evidence, but rather there seems to be the indication that the photographer who has succeeded in doing a profitable business is the man who is to be upon the platform. While we have nothing to say against art in its relation to photography, and even believe it to be a splendid thing to encourage, we do believe that it has received sufficient attention during the past five or six years and is entitled to a much needed rest. The business sentiment is the one that now should claim the floor and it is a pleasure to learn, as we have unofficially, that business is to be the key-note of the National Convention at Niagara in August.

SIMPLE SULPHUR TONING.

By H. Spennithorn.

The following very clear exposition of bromide toning is reprinted from a recent number of *Photography*:

The method of toning bromide prints with sulphide, which has become very popular during the last few years, has led me latterly to use the bromide process instead of carbon almost entirely, and as I now make my negatives suitable for bromide enlarging as far as density is concerned there is not any very great difficulty, I find, in getting as rich and fine a print on bromide as is to be got with sepia carbon when everything is working at its best. The ease of direct enlarging I need not stop to point out. I have penned this short account of my own method of procedure, as I find in most of the published accounts a great deal of stress is put upon precautions which I have not found to be necessary; if there is anything of importance which I omit, it can at least be said that I have been able to get very good enlargements without it on the lines laid down in what follows.

The Sort of Negative Which is Best.—The first consideration is the negative. One great advantage possessed by this method of making enlargements is that it will work well with a negative that is distinctly too hard for ordinary direct enlarging—in fact, it is an advantage for the negative to be a little on the hard side, as it tends to make the shadows richer. But this hardness must not be obtained from under-exposure, but from correct exposure with development carried a little further than would be the case if the plate was only wanted for contact printing on gaslight paper or for enlarging on plain bromide paper without subsequent toning.

Bromide Papers for Which It is Most Suitable.—The most suitable bromide papers I have used have been the extra rough cream crayon of Wellington and Ward, the Barnet "Tiger Tongue," and last, but not least, the widely popular Eastman "Royal," which for this process I have never found to be beaten.

Exposure in Enlarging.—There is little that need be written about the exposure of the enlargement, which is carried out in the usual manner, but it should be a little fuller than for black tones, but not much.

The Developer. Its Composition and Use.—The developer I use for all three papers mentioned above is made by dissolving one ounce of sodium sulphite in thirty ounces of water, and when it is quite dissolved adding sixty grains of amidol and ten minims of a ten per cent. solution of potassium bromide.

The Composition of the Developer is Important. as I find the richness of the color depends more upon it than upon anything. The sulphite must be clean, in waxy-looking crystals without any white powder about it. If the sulphite has not been kept in a well-corked bottle it may have lost its clearness. In such a case, if the powdery deposit is only on the outside of the crystals, a few grains in excess of the ounce is allowed in weighing out, and then the crystals are just rinsed for a moment in clear water, which is thrown away, before being dissolved up for use. The sulphite solution should be made just before it is wanted for use, and the amidol should not be so stale that it gives a very dark colored solution. Next in importance to the mixing up of the developer comes its use. An excess of bromide in it is fatal to a good rich tone. Nor must the developer be used too often over and over again. It may be used for several enlargements, but it should be carefully watched, and as soon as there is the slightest sign of a greenish tint or a lack of vigor in the

blacks of the developed print it must be thrown away and a fresh lot mixed up. Development must be carried further than when plain black and white enlargements are being made. In fact, it should be carried on until the developing action seems to stop, or, at any rate, only to proceed very slowly.

Fixing and Washing. The Cause of Marks and Stains.—The enlargement is then fixed by being allowed to remain for a quarter of an hour in a fixing bath made up of—

Hypo	4	ounces
Potassium metabisulphite	½	ounce
Water to	30	ounces

It should be kept well under the surface of the liquid all the time, and then be thoroughly washed. Insufficient fixing is a cause of irregular dark patches in the prints when toned, insufficient washing causes irregular light patches, bad color, and general weakness; so both should be avoided. Although these thick rough papers hold the hypo much more tenaciously than the thin platino-matt bromide, I find that by changing an enlargement backwards and forwards from one dish to another, allowing it to drain well into the sink at each change, changing the water in the dishes each time as well it is quite possible to wash the enlargement *thoroughly* in half an hour. But it is hard work, for if it is to be done so quickly the print must not be left soaking, but changed constantly—in fact, it should have from twenty to thirty drainings and changes.

The Prints that Tone to a Good Color.—It is now in a condition to tone. Or at least it should be. If it is decidedly too heavy for a plain untoned enlargement, with deep, strong blacks, but at the same time the highest lights are clean and just free from deposit, we shall get a good color. If it is at all inclined to a greenish black, if it looks fogged or weak, or even if it looks just right as a black print, we may save ourselves the trouble of toning, as it will only make it look worse instead of better.

The Bleaching Bath Recommended.—The bleaching solution which I employ is a very simple one, and avoids the necessity of a sulphite bath, which is the one drawback of the otherwise excellent iodine bleacher. This is as follows:

Potassium ferricyanide	6	grains
Potassium bromide	8	grains
Water to	1	ounce

In this the enlargement is left until the image has almost disappeared. It never quite disappears, but the bath should be allowed to act as far as it will. A very cursory rinsing is then all that is needful; the print is placed in the sulphide bath till it, too, ceases to have any further effect.

Blisters and the Sulphide Bath.—When I first took up this process I was very much troubled with the paper blistering. After a number of experiments I traced it to its cause, which I found to be the use of too strong a sulphide solution. Two ounces of crystallized sodium sulphide are dissolved in a pint of water, and this without further treatment constitutes my stock solution. It keeps quite indefinitely in a stoppered bottle, and I have not found any need to boil it, as originally described by Mr. Blake Smith. It is best to make all the sulphide up into a stock solution as soon as it is bought, as otherwise it will be found that the salt deliquesces on keeping, so as to form a sticky wet mass in the bottle, which can no longer be properly weighed out. The enlargement is placed in—

Stock solution of sodium sulphide, as above	½	ounce
Water to	1	pint.

This will take about three minutes to bring out the full richness and depth of color of which a good print is susceptible, but the degree of dilution I find is a practical guarantee against blisters.

Finishing and Mounting the Enlargement.—When the action of the sulphide has ceased, the print is washed in a few

changes of water and is hung to dry. When quite dry, I brush thin hot glue over the back of the enlargement, place it down on thick cardboard, and after rubbing it down and making sure that it is quite smooth it is allowed to remain for forty-eight hours or more under the pressure of a heavyy sheet of plate glass on a flat board. It comes out quite flat and smooth without any tendency to curl, and is ready for spotting.

Spotting and Waxing.—The best material for spotting such prints I find to be ordinary sepia water color. A very little is taken on the tip of a camel-hair brush, tried on a piece of white paper so that it only just makes a mark, and with this all spots on the enlargement can be taken out without much skill being required, though if the original negative was a very bad one a good deal of patience may be wanted. When the spotting is done, the print should receive a coating of white wax dissolved in benzol to make a mixture almost like a thick cream. This should on no account be omitted, as it brings back a great deal of the richness which the print had while it was still wet, and which it lost, perhaps to the photographer's disappointment, on drying. This waxing mixture should be well rubbed in with a clean piece of old cambric—there is nothing better than an old handkerchief for the purpose—and then as much as possible should be wiped off again. If the enlargement so made is framed up close in a suitable dark toned plain frame it will be found very difficult indeed even for an expert to tell that it is not a first-rate sepia carbon print from an enlarged negative, and higher praise than that I do not think a print could hope to have.

Conclusion.—There is little or nothing in this which is novel, I am afraid, but if I have succeeded in making it plain that the process is truly a very simple one, and by describing my own procedure should lead some to take it up who have not hitherto done so, I feel sure that I shall earn their gratitude. It is a process which only wants to be known to be appreciated.

THE COUNTRY PHOTOGRAPHER.

(A Paper Read at the Recent Portland Convention.)

BY W. G. EMERY,
Corvallis, Oregon.

THE following ringing address from the far northwest carries a message to the country photographer of the Middle and Eastern States that is just as important and just as real as to those before whom it was delivered and whom it was intended to reach, by the man who made it.

Mr. Emery has some very logical points in his address which we reprint from the *Monthly Review*, with due acknowledgments therefor. If every country photographer in the land could read this address, and after reading it would sit down for five minutes and conscientiously try to find some reason for evading the logic it contains, he would be a more intelligent photographer at the end of that five minutes than before he read the article. Very few of them would have very strong arguments to set forth against Mr. Emery's statements. We commend it to the careful reading of every photographer into whose hands this magazine may chance to fall. (Ed. W. P. M.)

FRIEND BUTTERWORTH 'phoned me a couple of weeks ago that he would expect a few remarks from me at this time on the subject of "The Country Photographer," and stated that other speakers would address the convention on the "Artistic Photographer," thus intimating that there are two great classes of photographers, the artistic photogra-

pher and the country photographer. This probably is a very good classification to which, according to an old story, may be added a third. About fifteen years ago Mr. Yocum, an old-time photographer of this city, sued another photographer named Eastman for forty dollars wages due him. Eastman was a "ninety-nine cents a dozen" man, the pioneer "Cheap John" photographer of Portland. During the suit Yocum was asked by the court for his opinion of Eastman's reputation as a photographer. He said he could answer the question best by telling of a dream of the night before, in which he thought he died and went to heaven, but was held up at the pearly gates by St. Peter on the ground that photographers were not allowed in heaven. Yocum said he looked through the gate and saw Eastman inside, and asked St. Peter why he was allowed inside. "Oh, well," said St. Peter, "Eastman isn't a photographer to hurt." Our worthy secretary is a great josher and I realize that in his classification of photographers the joke is on me, but I am thankful that he let me off so easy for he might have gone still further back and classed me with those who are "not protographers to hurt."

The many beautiful creations of photographic art on exhibition in our convention hall are in themselves proof of the existence of the artistic photographer. I do not think there is any work on exhibition here by those who "are not photographers to hurt," for these seldom attend conventions. It is a long step from this class to a Jackson, a Moore, a Thors and others of like ability. Somewhere along the road between these two extremes are found the country photographers. Some are working their way up the hill side and are nearing the border land of the artistic photographers, others of us are down in the valley as yet, but are beginning to get glimpses of the possibilities ahead, but some have stumbled into some of the ruts that mar every thoroughfare. Losing ground, losing customers, losing money, in their hands the operation of the country gallery is the reverse of successful. It is to my friends who are in the ruts and who are looking for a way out, that I wish particularly to address my remarks, for if there is a rut or a mudhole along the photographic highway that I haven't tumbled into since I have been in the business it is because I haven't come to it yet. One reason the country photographer gets into so many troubles and also the reason why he does not advance in his profession more rapidly is because he cannot specialize, but must cover every branch of the business. He must be conductor, engineer, brakeman and fireman. In other words, he must operate, retouch, print, tone and mount and be the reception girl, and in addition make the fires and sweep out (unless he is married), and sew the buttons on his pants, if he is single. He must be able to make stamps, views, exterior and interior work in platinum, platino, collodio carbon and carbons. Is it any wonder that we get hung up along the road, or that we are seldom if ever heard of outside our own bailiwick? Another thing; in the cities keen competition keeps the photographers alert and up-to-date. Catching up the ideas of others and evolving new ones of their own, each day, each month, each year, makes a steady improvement in their work. It is not so with us. Often with little or no competition, the nearest gallery miles away or in the neighboring town, customers easily satisfied just so the prices are cheap, little encouragement to try to induce better, higher-priced work, no wonder we get into ruts and crystallize into "have beens." A few years after the introduction of some new process and its successful working by our city friends we of the country hear about it, and before we can master the details, the process is a back number.

When I first heard of carbons, I thought they were charcoal sketches or something of the sort. I never saw one until I attended a photographers' convention. If there is a class of photographers anywhere in our broad land that these conventions are especially helpful

to it is the country photographer. Convention medicine is the proper treatment for a torpid business, my country friends. It is not expensive medicine, either; costs only $2.00 per bottle, and there is none better manufactured than that turned out by the Photographers' Association of the Northwest. I took my first prescription three years ago and the medicine this year is better than ever before, probably on account of some new ingredients from sunny California. Not only should we attend these conventions, but it is just as necessary that we bring with us samples of our best work, for only placing it side by side with the best of others can we fully realize our shortcomings and see wherein the work of our superiors surpasses our own. There is one fact that these conventions teach, and they teach it thoroughly, the fact that we do not know it all and that we have much to learn. Go and look at that pet picture of yours, which has seemed to you to be about perfection, then go up a few steps and examine the work of some of the recognized leaders of our profession. It won't be long before you feel like packing your grip, pictures and all, and starting for home. But don't go. You are just getting in the right frame of mind to derive the greatest benefit from your attendance here. For when you can honestly admit to yourself that your work is of inferior quality you will have taken the first step toward improving it and will absorb new ideas and store away useful knowledge, so that when you return home you will see your work improving, that your customers are better pleased and that you are in every way better for coming here. We should not, however, attempt to carry home all the new ideas we see about us and throw away all our own methods. That would neither satisfy ourselves nor our customers.

A little experience of my own along this line might not be out of place. While attending my first convention I was much impressed by a picture on exhibition that was attracting much attention. The subject, which was evidently a human being, had been apparently posed in the darkest corner of a dark room and a snap shot taken of it on a slow plate, then half developed and printed on a coarse grade of sand paper. "Isn't that immense!" I heard one say. "One would hardly believe that it could be a photograph," said another. I could hardly believe it myself, but when I returned home I rushed into using rough surfaced prints and sadly under-exposed negatives, with the result that as my art (?) increased my customers decreased. When it came to delivering the work, my faithful and long-suffering wife struck! She said she had got used to telling the grocer's collector on the first of the month that I was at home, sick in bed, or out in the country, when I was hiding behind the background, and telling our patrons that the reason that we hadn't finished their pictures this week was because the factory was out of paper and other necessary photographic explanations, but she did draw the line at laying herself liable for prosecution for obtaining money under false pretenses. It did not take me long to find out that I was indeed "up against it," for no amount of free art lectures could convince my patrons nor their friends that they were getting what they wanted. Once in a while I would cajole some gullible patron into leaving his money and taking the goods off the premises, but he usually would return before sunset with a bad look in his eye and demand his money back.

Another important lesson to be learned here is the proper use of many things we have been improperly using at home. I am sure everyone who attended Mr. Masters' demonstration to-day of Aristo-Platino paper will remember that one of the proper uses of water is to thoroughly wash your prints, and that grease, though all right in its place, is not a proper ingredient for a toning bath. A little later on Mr. Oliver, Mr. Lussier and Mr. Rose will show you the beautiful effect of the proper use of light and shade. Now, when you go home, take these lessons with you and look about your gallery and see if there are not many things there

that have outlived their usefulness and could be more profitably and properly used for other purposes. These old, out-of-date accessories, if split up fine, would make excellent kindling wood. Those stained and dirty skylight curtains, if washed and torn into pieces of proper size, would make splendid mop-rags. Cobwebs are useful for healing bruises. Those old pictures in your showcases and the scuffed and soiled photos on your tables, about which you have romanced so often, if burned and the ashes consigned to the ash heap, would make a lye of unusual strength. Put all these things to their proper use, then get a scrub brush and some Sapolio and clean up everything cleanable. Remember that the first impression of your artistic ability a visitor gets is the taste displayed in arranging the room. Hang on the walls a few masterpieces made by some of our leading photographers. Put the name in plain letters on these pictures, not your own, but the name of the man who made them. Make your studio the local art gallery of the community. Encourage visitors and give each a few minutes of your time. Discuss with them the different styles and processes of photography, samples of which you should have on hand. All this trouble will bring you business later on. Keep fully in touch with the social and political life in your community. Nobody will think any the less of you as a photographer for being a progressive and up-to-date citizen.

Cultivate friendly relations with your rival in the other end of the town. I could never see any reason for crossing over to the other side of the street to avoid meeting a competitor. I assure you, my friends, that we don't do that way up in Corvallis. If my competitor, Mr. Gardner, carries a razor in his boot leg, I have never seen it. On the contrary, he has gone even so far as to introduce me to his wife and family. We often visit each other's place of business and discuss prices and keep them practically the same for all styles of work. As a consequence we divide the trade, pay our grocery and stock bills and have money enough left to attend our conventions. If the photographers, not only of each country town, but of an entire section, would adopt the same minimum charge for their work, they would be considerably in pocket at the end of the year. In the country, where rents are much cheaper than in the city and where the cost of living is proportionately less, $4.00 a dozen for cabinets is as good, probably, as $6.00 or even more in the city. I am speaking of work on Aristo-platino, Monarch matte and other similar printing out papers. Adopt then, say, $4.00 a dozen, as your basis price, and stick to it. Of course, I understand that cabinets can be made at a profit for $2.00 a dozen or even less, but you cannot figure the cost of photographs as a groceryman does that of his soap. He is selling a necessity and catering to an almost unlimited demand. You are selling a luxury and you are not competing with the man who sells soap, but with the man who sells silk, satins, tickets to the theater, and the like, and when you put your pictures on the bargain counter the other fellow gets the money. Keep clear of the bargain counter. Avoid coupons and other similar schemes of giving away something for nothing. Such things may work in the city. I don't know. I never have tried them there, but I do know that they are poison to a country business.

Now supposing that we are getting a good price for our work and that our gallery is well equipped and is clean and attractive and that our output is of good average quality, and yet you are in a position where the balance at the end of the year is either on the wrong side or else is so small that we cannot even afford to attend a convention. What can we do to increase our receipts? This is a question which many in our convention hall can answer better than I, and is a question I hope to hear discussed at length during our meetings. One plan I would suggest, one which, by the way, is a convention idea and one which I have put to practical use for several years, is the judicious recommendation

to a customer of some new style or specially attractive mount for an advance of from fifty cents per dozen upward over the price of the regular cabinet styles. Almost anyone can sell a customer something he wants, but the real art of selling is to persuade him to spend a little more than he intended to invest. I use Aristoplatino for my everyday work, for which I charge from $3.50 to $4.00 per dozen for cabinets. After showing this work and securing a sitting, I then bring from another room a neat portfolio containing some more expensive mounts and folders. Prices on these I quote from $5.00, $6.00 and up to $8.00 a dozen. I have often only to show these mounts to get an order. In another portfolio I have samples of collodio-carbon and carbon platino at from $8.00 to $18.00 a dozen. It is no unusual thing to secure an order in these styles. I also have some neatly framed carbons, at from $5.00 to $10.00 each, to which I finally call the attention of a possible customer. I don't sell a $10.00 carbon every day or even one a week, but I do occasioanlly get a customer, and every such order is worth twice what I ask for it as an advertising proposition, for nobody in a country town ever pays $10.00 for a photograph without calling in all the neighbors to see it. That this plan is practicable I proved to my own satisfaction. In looking over my books some time ago, I found that for the year ending July 31st, I materially increased nearly one hundred and fifty orders, making a net gain of over $300.00, which I believe I would have lost under the one-price system. This does not take into account orders on collodio-carbons or carbons.

In conclusion, Mr. President, speaking as a country photographer to the great body of country photographers, I would especially urge upon them three things which I know will not fail to be of lasting benefit to themselves, their patrons and their business. First: To attend our conventions, learn all they can, and then go home and dig. Second: Come again, learn some more, and dig some more. Third: Keep coming, keep learning and keep digging.

TRANSLATIONS AND ABSTRACTS FROM THE GERMAN.

BY HENRY T. WEED.

THE advantages of iron over some of the more modern developers are set forth by Dr. Stürenburg in *Das Atelier des Photographen,* 1905, page 189. After advocating its use in developing negatives, because of the quality of the image produced, he especially recommends it for the development of bromide papers. A brief abstract of this part of his paper follows:

The character of the print produced can be varied within wide limits by the use of various restrainers. To obtain a beautiful brown tone, potassium chloride can be used, in which case the developer may be made up as follows:

No. 1.

Water	500 c.c.
Potassium oxalate, neutral.	160 grams

No. 2.

Water	500 c.c.
Potassium chloride	65 grams

No. 3.

Water	500 c.c.
Iron sulphate, ferrous	50 grams
Citric acid	4 grams
Potassium bromide	2 grams

To develop, 100 c.c. of No. 1, 25 c.c. of No. 2, and 25 c.c. of No 3 are mixed. It is the chloride of potassium which gives the warm brown tone and by taking more or less of this the tone changes correspondingly. At the same time the exposure must be increased in proportion. For the developer given above about four times the normal exposure is necessary.

The influence of citric acid and the

citrates is interesting. They not only act as restrainers, but in conjunction with the time of exposure determine the color of the print. This is especially noticeable with the citrates. A large percent. of citric acid or citrates in the developer also increases its keeping powers in a marked degree, so that not only does the developer keep well, but when used remains clear and can develop a number of prints.

The addition of citric acid, to the amount of at least one-fourth of the iron present, to an ordinary iron-oxalate developer gives a print having a beautiful black tone. At the same time the potassium bromide ordinarily added as a restrainer may be almost entirely omitted, so that the ugly greenish tone so often caused by its use is done away with. This advantage is greatly increased when not only citric acid but citrates are added. The following developer is of this class and not only keeps well but gives an agreeable tone.

No. 1.

Water	500 c.c.
Citric acid	10 grams
Ammonium citrate	10 grams
Ammonium chloride	1.25 grams
Ammonium bromide	2 grams

No. 2.

Water	500 c.c.
Citric acid	10 grams
Iron sulphate, ferrous	33 grams

To develop equal parts are taken. This may be varied, however, the use of less iron giving weaker images. If the ammonium citrate is replaced by potassium citrate and the ammonium chloride omitted a colder tone is obtained, while if the potassium citrate is replaced by magnesium citrate the tone is warmer. By preparing stock solution of the various citrates and using them in making the developer it is possible to vary this to suit the work in hand.

A TABLE OF THE COMPARATIVE SOLUBILITIES of various developers prepared by Charles Gravier, and taken from Eder's Year Book, may be of assistance to those undertaking to prepare concentrated developers.

SOLUBILITY IN 100 C. C. OF SOLUTION.

	At 15° C.	At 40° C.	10% sol. crys Sod. Sulph.
	grams.	grams	grams
Adurol	100	more than 100	65
Glycin	0	0.2	Trace
Amidol	30	33	28
Glycin	0	0.2	Trace
Hydrochinon	6	14	4
Eikonogen	7.8	17	4
Ortol	7.8	11	0.8
Metol	8	9	2
Pyro	59	more than 100	59
Paramidophenol hydrochlorate	36	52	6.75

NEGATIVES occasionally show spots and markings on the film, due to the unvarnished plate having been placed in a paper envelope so that paste has had a chance to act upon it. This is especially the case where they have been stored in a damp room. A simple way to remove the stains is given by Dr. Hauberisser in *Photo. Korresp.* The negative is first bleached by being placed in the following solution.

Saturated potassium bichromate solution	10 c.c.
Water	110 c.c.
Pure concentrated hydrochloric acid	3 c.c.

The spots bleach somewhat more slowly than the rest of the negative, but it must be allowed to remain in the bleaching solution until these too have become white. It is then well washed, and redeveloped, using any energetic developer, until the film is completely blackened through to the glass. It is then washed for a half hour. Fixing is not necessary.

A SIMPLE method for determining the real working value of the diaphragm opening of an objective is given by K. Martin in Eder's Year Book. The lens is placed on a camera as usual, with the largest diaphragm in position and focussed upon a distant object. A cardboard with a fine hole in the center is then substituted for the ground glass, and a rule placed in front of the lens and immediately against the mount. On

looking through the hole in the cardboard screen, the diameter of the lens opening may be read off at once on the rule.

If accuracy is not essential, it is sufficient to hold the lens in the hand so that the eye is approximately at the focal distance of the lens and place the rule in front of it as before. The method is not suited to objectives of less than 12 cm. (5 in.) focal length, as the accommodation of the eye fails at such short range.

An acid amidol developer for bromide papers is strongly recommended by G. Balagny (Bull. Soc. Franc. Phot., 1905, page 414). This developer, previously used in the development of dry plates only, gives according to the author most satisfactory results with all commercial varieties of silver bromide and chloride developing papers. In fact he predicts that it will eventually drive out the alkaline developers now used for that purpose. It is made as follows:

Water	150 c.c.
Amidol	1 gram
Sodium sulphite, anhydrous	2 grams
Potassium bromide, 10% solution of trade	5 c.c.
Sodium acid sulphite, solution	5 c.c.

Especial care must be taken that the trays contain no trace of an alkaline developer. The exposed print is placed in the tray face up, and the developer poured over it. There is no danger of stains being caused by doing this and should air-bubbles form they can be broken by touching them with the finger. Development proceeds somewhat slowly. Should it be unduly delayed, turn the print face down in the developer, which will hasten its action greatly. In a few seconds reverse the print again so that the progress of development can be watched. If necessary repeat. As the prints darken slightly in drying, do not over-develop. Fix as usual in an acid fixing bath. The whites of the print will be perfectly clear, and the blacks have a rich velvet-like appearance.

LANTERN SLIDE DEVELOPING.

By A. W. H.

Simplicity in development and photography in general is all very well in a way, but the most exquisite slides I know of are to be secured by using rather complicated developers, or, in other words, "double" developers, and not combined, as Mr. Arnold Goldsmith advocates.

Don't hurry when making lantern slides; if you want to make haste be sure and do it very slowly. The best results, in my opinion, are obtained by slow development with weakened developers. Five minutes is none too much time to spend on developing a slide if the result warrants it. Slow development gives a finer deposit of silver, and more pleasing tones.

As stated above I use a double developer, and the formulæ for my two favorites I give below. I would ask any reader who has not been successful with slides just to give them a trial. The two I swear by are amidol and hydroquinone, and the formulæ are—

Hot water	10 ozs.
Soda sulphite	200 grs.
Amidol	30 grs.

This is double strength, and to use it add an equal part of water. One ounce of the above developer and one ounce of water make up two ounces of the finest "Part 1" developer.

We must then have a "Part 2" developer, and this is made of hydroquinone, as follows:—

A.

Hydroquinone	120 grs.
Soda sulphite	480 grs.
Water	30 ozs.

B.

Potash carbonate	1½ ozs.
Water	10 ozs.

For use take of "A" 1 oz.. "B" 3 drams, and water to make 3 ozs.

The two developers being ready, take the exposed slide and place in the amidol solution until all the detail is visible and then transfer direct—without washing—to the hydroquinone developer, and rock until the proper density is obtained. The solutions may be used over and over again, and are therefore very economical.

Development should be carried on a little beyond what is desired in the finished slide, as lantern slide images seem to "fix out" a good deal, especially in an acid fixing bath, and an acid fixing-clearing bath should always be used for slides. There are many formulæ for such, but the following is the one I perfer:—

No. 1.—Hyposulphite of soda	8	ozs.
Water	1½	pints.
No. 2.—Water	½	pint.
Add gradually sulphuric acid	1	dr.
Sulphite of sodium crystals	1	oz.
Chrome alum	¾	oz.

After the ingredients are dissolved, pour No. 2 solution into No. 1. When the bath becomes weakened by constant use, it must be replaced by a new one. Prepare solutions Nos. 1 and 2 in advance (allowing plenty of time for the chemicals to dissolve) so as to have them ready when wanted. This bath remains clear after frequent use, does not discolor the slides, forms no precipitate upon them, and hardens the gelatine. The lantern plate should be allowed to remain in the bath five to ten minutes after the "whiteness" has disappeared from the plate. The permanency of the slide and freedom from stain, as well as the hardening of the film, depend upon this.

Plenty of yellow light should be used when developing so as to be able to judge the density easily. Ruby light is not necessary, as lantern plates are not so sensitive as ordinary plates, and will not fog even with a large quantity of yellow light.

It is important to bear in mind that bad negatives will not give good clear bright slides, with the best plate and developer under the sun, although with care passable slides may be secured from negatives which are not quite perfect.

Slides may be intensified or reduced the same as an ordinary negative, or toned as one does bromide paper. It is really wonderful how one may "ring the changes" upon them.—*The Photographic News.*

COPYING DAGUERREOTYPES.

In our issue of the 3d ult. (reprinted in W. P. M., January, 1906, issue) we dealt very fully with the method followed by the old Daguerreotypists in "restoring," or, in other words, cleaning faded, *i. e.*, tarnished Daguerreotype pictures. This tarnishing is generally brought about through the atmosphere, and the impurities it contains. More often than not it is caused by the Daguerreotype having been taken out of its case at some time or other for the purpose of being copied, and then put back again by an operator who has omitted to seal the sensitive silver plate from the air by the simple application of a paper binding. It is fortunate, however, that these pictures, unlike other photographs, can be restored to their original state by those familiar with the process.

It is seldom that a Daguerreotype is brought to a photographer to be restored

without a request at the same time for copies or enlargements. Many look upon Daguerreotypes as being exceedingly difficult things to copy; that is, if one may judge from the number of queries that have, from time to time, been put to us, even by professional photographers, as to the best procedure. We have also read of some extraordinary devices and arrangements for the successful reproduction of these pictures; some of which must have amused those who have had any considerable experience in this class of work. As a matter of fact, a Daguerreotype picture is one of the easiest of all photographs to copy, if once the principle is understood, and, what is more, a reproduction from a good Daguerreotype, if properly made, more closely resembles a portrait from life than the copy of any other kind of photograph, as it is absolutely free from all texture, or grain. The difficulty—imaginary, be it said—in copying this class of picture is due to its highly reflective surface as in the case of all highly polished silver surfaces; but it should be borne in mind that the flat surface of the plate is very different from those, say, of vases and the like, which throw off reflections at all manner of angles. If we keep in mind that, in all cases, the angle of reflection is equal to the angle of incidence, the work is all plain sailing. We have simply to illuminate the picture at such an angle that the reflections from it are away from the camera, and not in its direction. If the picture be lighted at an angle—say of 45 deg.—the reflections from it will be at a similar angle, consequently quite away from the lens.

The most convenient place in which to copy a Daguerreotype is, perhaps, an ordinary room, the picture being placed at right angles to the window and close to it, so that it is illuminated by a strong side light only. Sunlight may be employed with excellent effect, provided the direct rays fall on the picture at, say, again, an angle of 45 deg. If an ordinary room be utilized, the camera being in an obscure light, there will be no reflection from the instrument, or from anything else that will give rise to trouble. If an ordinary room is not used, similar conditions should be observed in the studio—lighting the picture by a strong abrupt side light only, one as strong as possible. There need then be no trouble with reflections from surrounding objects. Now for the procedure.

The picture is taken out of its case and the covering glass removed: and we may here reiterate what was said in the previous article. The image is an exceedingly delicate one, and rests only on the surface of the metal plate and is not held by a film of any kind, as in the case of a collodion or gelatine one. Therefore, the greatest care is necessary in handling it, as the slightest touch on the surface may leave a mark which nothing will afterwards remove. Any dust that may be on the picture should be blown off; a soft camel-hair brush is sometimes used, but it must be very lightly applied, and both it and the picture should be slightly warmed so as to avoid moisture, which might cause marks. Furthermore, a brush, if used, might injure the coloring, supposing the picture to be a colored one. All Daguerreotypes, it may be mentioned, were colored with dry powder colors, without any medium to bind them to the plate.

In fixing the picture to the copying board, it should be so arranged that the light falls on it parallel with the buffing marks, and not at right angles to them. The buffing, it may be explained, is the final polishing of the plate before it is sensitized, and its direction is readily recognized by all old Daguerreotypists. Sometimes this polishing was so perfect that the marks are not easily discernible, but it may generally be taken for granted that the final polishing was transversely across the plate, and not longitudinally. This may necessitate the picture being placed somewhat diagonally on the copying board.

The lighting having been arranged as just directed, it only remains to take the negative in the ordinary way. Any plate and developer may be used, but over-exposure should be avoided, as that is con-

ducive to flatness. The negative should be made tolerably vigorous, so that it yields brilliant prints. When the operation is concluded the picture should be at once sealed up to protect it from the air, as it was originally by the one who made it, and returned to its case. It should be recognized by all photographers who have Daguerreotypes to reproduce that, however good the copy may be, the original is always greatly valued by its possessor, and, therefore, every care should be taken to see that it is thoroughly protected from atmospheric influences before it is returned to the customer.—*British Journal of Photography.*

IMPROVED SENSITIZING BATH.

BY G. T. HARRIS, F. R. P. S.

I AM under the impression that Professor Namias was the first to suggest the use of citrates in the bichromate sensitizing bath; but as I have not the facility at the moment of writing for looking up the history of the matter, my statement must be taken with some reserve. My own conversion to their use was brought about in quite an accidental manner, and for some time I was ignorant of the fact that they had already been used by one or two workers. I had been in the habit of neutralizing the plain bichromate bath with .880 ammonia when its color indicates an undesirable amount of acidity, and on the occasion in question I accidentally added so large a quantity that there was every danger of the tissue being too soluble for safe working if sensitized in it. To avoid the necessity of making up a fresh bath, I proceeded to neutralize the ammonia with citric acid, adding it until the bath lost its smell of free ammonia. This took, by a rough calculation, about 100 grains of citric acid, and the tissue was then sensitized and dried. I was prepared to find that the large addition of citric acid had considerably modified the tissue in one direction or another, so commenced by exposing a trial piece. This was given the requisite number of tints with a negative of good carbon printing quality, but on development the print was only about a third exposed, although the same exposure with the ordinary bichromate sensitizing bath had given fully exposed prints. I at once condemned for future occasions any neutralization with citric acid, and looked with dismay on the large amount of tissue I had sensitized with the addition. To enable me to use up the tissue I selected some of the thinnest of the negatives wanted in carbon and proceed to print them, giving three to four times the normal exposure. My first surprise came on developing these, when I found, instead of the flat prints, lacking contrast, usually obtained from these thin negatives, prints of quite perfect quality, vigorous, and full of gradation. At the same time I noticed a distinct improvement in the working of the tissue, stripping took place more readily—a great consideration when using rough-surfaced papers—and the superfluous pigment washed away with much cooler water.

Experiments were afterwards made with regard to the keeping quality of citrate sensitized tissue, which proved indubitably the great value citrates have in this direction. Some tissue was placed in an empty tin, without any especial precaution, such as pressure and rubber bands to exclude air, and after keeping a month it was printed, development taking place readily with water of medium temperature. Tissue sensitized on the ordinary bichromate bath, and stored under similar conditions, would, without doubt, have been quite insoluble at the end of seven days.

To avoid the rule of thumb method of first adding ammonia and then neutralizing with citric acid, I had decided on the most workable proportion. The formula that I have adopted, after considerable experimenting, is as follows:—

Potassium bichromate	2 ozs.
Ammonia (.880)	1 drachm
Sodium citrate	120 grs.
Water	60 ozs.

I have every reason to feel thankful for the accident which led me to discover for myself the value of citrates in carbon printing. Undoubtedly, they confer a great boon by keeping the tissue in a soluble condition for a considerable time without having recourse to storage contrivances that do not always fulfil their mission. From thin negatives prints of undoubted superiority are obtained by the use of citrates in the sensitizing bath. The only point that can be urged against their use is the necessity for increased exposure, and this is scarcely noticeable in practical work, as the sensitiveness with citrates added is about equal to platinum paper.—*The British Journal Almanac.*

TREATMENT.

THE photographic art has made such huge strides of late years, especially with regard to the personal treatment of a picture, that we no longer look upon an artistic photograph as the work of camera and lens, but rather as the sun drawing of an individual, who has stamped his character, purpose, and individuality in every line. A few years ago, one who used the term "drawing" with reference to photography, would have been laughed at as the originator of a mere absurdity. To-day we recognize that workers in gum, in oil printing, and even to some extent in carbon and platinotype, actually do draw the pictures which are presented upon the walls of such exhibitions as the London Salon. A few years ago no photograph which did not bear upon its face the accurate impression of a thousand details was considered worthy of a second glance; to-day, we have learnt the arts of suppression and omission. No longer does the cry go up that we must include every thing which is before the lens, and that on that account our art is forever handicapped; the time has come when men can leave out or include at their pleasure, and to the extent, too, once possible only to the wielders of the pencil and brush. True, little of this is done in the field. Without, in any way, under-rating the great importance of point of view, of lighting, of choice of subject, and of composition, still, the great value of the picture deepnds upon its after-treatment, and it is in this treatment that the individual asserts himself and displays his full stature. It is the treatment of the print that the reserve in tone, the tranquillity and largeness of line, and the refusal of unnecessary objects of interest, show themselves, and declare the artist to be an exponent whose mind is habitually noble. "The refusal or reserve of a great artist," says Ruskin, "cannot be intimated, it is only by reaching the same intellectual strength that you will be able to give an equal dignity to your self denial. No one can tell you beforehand what to accept, or what to ignore; only, remember the greater your strength, the quieter will be your manner. The secret of high success will be found, not in a fretful and various excellence, but in a quiet singleness of justly chosen aim."

C. W. B.

To those interested in photogravure we can recommend Siegmund Gottlieb's *Praktische Anleitung zur Ausubung der Heliogravure,* published by Wilhelm Knapp, Halle a. S., Germany, price 1.5 marks. The author gives, clearly and simply, directions for making photogravures from the graining of the plate to the printing of the finished copy. The explanation of the various steps in the process are concise, yet clear, and the theory of the process, as well as the practical side, is given in detail.

PRACTICAL POINTS.

The Joint Convention of the Photographers' Association of the Pacific Northwest and the Photographers' Association of California, was held in September last in Portland, Oregon., and was successful in every way. The attendance was large and enthusiastic. Business methods and technical questions were discussed and practical matters of vital importance to the craft taken under consideration. One of the most prominent speakers was Frank R. Barrowes, Treasurer of the National Association, whose address was received with great interest and appreciation.

Officers for the ensuing year were elected as follows: J. Savannah, of Victoria, President; M. Loryea, of Spokane, Vice-President, and W. G. Emery, of Corvallis, Secretary and Treasurer.

The next meeting of the Photographers' Association of the Pacific Northwest will be held at Spokane, at a date to be fixed upon by the Executive Committee.

Bromide or No Bromide? This is a question that is receiving a good deal of attention at the present time, and is one that should be easy of solution. *Photography,* in speaking of this subject, suggests the simple experiment of exposing two plates of an interior in which a window or windows prominently appear. Develop one of these plates with and the other without bromide and note the result.

When both plates are finished let them be put side by side, and the halation in each compared, when it will be found that the plate developed without bromide is far more free from this defect than the other. The experiment is so easy to perform, and so conclusive, that it is difficult to see how the use of bromide is still persisted in by some workers. Of course, the plate should be unbacked for preference, although we have known the difference to be very well shown by a backed plate used under trying conditions.

TRADE NOTES.

It is a universally admitted fact that the most important part of a photographic outfit is the lens. It is, therefore, wise to purchase the best lens obtainable if the best work is to be looked for. Readers of this journal need not be told that the reputation of the well-known Dallmeyer lenses has been built up upon quality and demonstrated value. One of their most famous and valuable all-round lenses is the Dallmeyer Stigmatic, introduced a number of years ago into this country and favorably known wherever used. Six advantages over other lenses are claimed for it, namely:

1. Its speed is considerably greater, F. 6.
2. It is a convertible lens, each combination being a complete lens in itself, the front combination having twice, and the back combination one and one-half times the focus of the complete lens.
3. It has a very wide angle (85 degrees), thus making it capable of covering a plate about one and three-quarter times its focal length, and will only require stopping down to secure "depth of focus" and to equalize the illumination over the entire field.
4. The single combinations are specially corrected for independent use and will, therefore, work at a larger aperture than other lenses.
5. The focal lengths recommended for given sizes of plates are somewhat longer than other lenses, thus giving a better perspective to the resulting picture.
6. It is about 33 1-3 per cent. lower in price than other lenses of similar character.

These claims are worth careful investigation by any one intending to purchase a lens in the near future.

A new and complete catalogue of the Dallmeyer lenses will be sent on application to F. G. Burgess, P. O. Box 1891, New York.

Penrose's *Pictorial Annual,* the Process Year-Book for 1905-6, is just at hand from the American publishers, Tennant & Ward, 287 Fourth Ave., New York. This volume is by far the most elaborate of the series, and its foreign publishers, A. W. Penrose & Company, are to be congratulated upon having produced a most sumptuous and up-to-date review of the graphic arts throughout the world.

We notice that the price of this volume has been increased to $2.50 in cloth, but the quality of the publication has been increased many times more than that represented by an additional 50 cents in the price. It is impossible to more than touch upon the salient features in this volume, and in saying

that it contains a thorough record of advance in the printing arts we are well within the truth. All interested in modern process printing, color work and photographic applications to the printing press in all its branches, will do well to place their orders for a copy of this volume before the American edition of this volume is exhausted. The American publishers inform us that the edition is limited and very nearly sold as we go to press.

THE following letter from the C. P. Goerz Optical Works will be of interest to those who have read from time to time references to their catalogue cover competition:

NEW YORK, Dec. 30, 1905.

WILSON'S PHOTOGRAPHIC MAGAZINE,
289 Fourth Ave., New York City.

GENTLEMEN:—We take pleasure in informing you that the Goerz catalogue cover competition, which closed last month, has proven a complete success, and has been fruitful in interesting results.

The first prize, by Mr. Edward J. Steichen, is a wonderfully beautiful and interesting composition, which we propose to publish in poster form simultaneously with its appearance on our next general catalogue.

The pictures sent in were judged, as announced in a previous communication, by Messrs. Alphonse Mucha, Alfred Stieglitz and Joseph T. Keiley.

Upon recommendation of the judges, the following awards were made:

First prize: Mr. Edward J. Steichen, New York.

Second prize: Mrs. Laura Adams Armer, California.

Third prize: Mrs. Annie Brigman, California.

The judges further decided that the remaining competitors had not adequately considered the conditions of paragraph 11 of the rules governing the competition.

The balance of the prizes were, therefore, awarded by the C. P. Goerz Optical Works, with the following results:

Fourth prize: Miss Katherine Brigham, Vermont.

Fifth prize: Mr. H. H. Pierce, Massachusetts.

Sixth prize: Mr. F. E. Bronson, New York.

Seventh prize: Mr. A. W. Engell, Illinois.

Eighth prize: Mr. R. H. Cunan, New York.

Yours very truly,
C. P. GOERZ OPTICAL WORKS.

PROFESSIONAL photographers will be interested to learn that *St. Louis and Canadian Photographer,* which has for so many years been conducted under the management of Mrs. Fitzgibbon-Clark, of St. Louis, has changed hands and Mrs. Clark has severed her connection with it. In an open letter to the craft, Mrs. Clark says that "failing health and eyesight compel me to resign the work to younger and more capable hands."

It must be said that the *St. Louis and Canadian Photographer,* edited by anyone other than Mrs. Clark, would be like the play of "Hamlet" with the title role omitted; but times change, and the world changes with them. We extend our best wishes to Mrs. Clark, and trust that whatever may claim her attention in the future may be profitable and pleasant, and that her health may be shortly restored.

THE NEW ROSS HOMOCENTRIC LENS—"Homocentric" signifies the ideal definition obtainable when all rays of light emanating from any one point of the object are converged by a lens again into one point in the image.

The new Homocentric Lens, manufactured by Ross, Ltd., of London, Eng., possesses this definition to a degree hitherto unattained. Hence the name "Homocentric."

In the construction of photographic lens systems, generally, a certain residue of secondary spherical aberration cannot be eliminated when a flat field is obtained. This aberration, known as "spherical zones," tends to destroy the fine detail, more especially in the centre of the image, and causes the focus of the lens to vary with the aperture of stop used, imperfections which are particularly injurious to the quality of the image when enlarged and in lenses of long focus.

Homocentric lenses are absolutely free from these spherical zones, and have not the slightest variation in focus, whatever diaphragm is used; consequently, they possess the most exquisite defining power. Enlargements, therefore, from a negative taken with a Homocentric Lens are perfect in detail and fineness of contrast.

Homocentric Lenses, while being equal to any other anastigmat in flatness of field, freeness from coma and astigmatism, have their color correction so perfect that the different colored images are identical in size and position, thus rendering the Homocentric Lens, which is semi-apochromatic, specially suitable for three-color and other process work.

The all-round good qualities of the lenses manufactured by Ross, Ltd., of London, Eng., have long been known in this country, and the Homocentric, the latest development of lens manufacture, we believe possesses all the good qualities that are clamied for it.

Booklet matter and full information concerning Ross lenses may be had by applying to any of the leading dealers in photographic supplies throughout the country.

A careful investigation into the merits of this system of lenses should be made before the purchase of an instrument is fully decided upon.

EDITOR'S TABLE.

Mr. Henry A. Hyatt, one of the best known photographic stock dealers of the West, died very suddenly in the Union Depot, St. Louis, early in December from an acute attack of indigestion. Mr. Hyatt was the founder of the well-known stock house doing business under the name of the H. A. Hyatt Photo Supply Company, which business he built up and developed into one of the largest in that section of the country. His death was very sudden and unexpected, and his loss will be felt and mourned by a large circle of friends and business acquaintances. Mr. Hyatt leaves a widow, two sons and one daughter, who will receive the heartfelt sympathy of the profession.

We regret to announce the death by accident on Sunday, Jan. 7th, of Mr. O. H. Peck, of this city. Mr. Peck is well known to the fraternity at large as having built up the extensive photographic supply business originally carried on under the name of O. H. Peck & Company and later the O. H. Peck Company, of Minneapolis. A few years since Mr. Peck sold out his interest in the business and came to New York, where he identified himself with the New York Lens Company as owner and proprietor.

On the 1st of January Mr. Peck was run over by a large touring automobile while endeavoring to recover his lost hat on Fifth Ave. His injuries were reported very serious and scarcely any hope was extended from the date of his accident on January 1st until the date of his death, six days later.

Mr. Peck's genial nature and amiable disposition made for him a place in the hearts of all his friends, who will long retain a fond memory of his personality. He leaves a widow, one son and a daughter. Our heartfelt sympathies go out to them all in their bereavement.

The death of M. Arthur Honoré Radiquet, Officer of Public Instruction, is reported from Paris under date of December 6th, 1905. M. Radiguet was a prominent feature in the educational development of Paris, and had devoted a great deal of interest and personal attention to the matter of photography in its educationtl features. His death is mourned by a very circle of relatives and friends.

The Southern School of Photography, located at McMinnville, Tenn., has issued an elaborate prospectus and description of its building, methods of instruction and official staff, etc., together with complete information concerning the cost of tuition, board accommodations, etc. This pamphlet will be sent free to everyone requesting it.

Readers interested are advised to address W. S. Lively, President, McMinnville, Tenn.

Eder's Year-book for 1905 once more justifies its position at the head of all the foreign annuals. As usual, it contains many original articles of value, as well as a most comprehensive review of the advances made during the past year in the various branches of photography and the reproductive processes. The review of orthochromatic and three-color photography is especially to be commended. The mass of material published each year on these subjects is so great that an accurate and impartial review such as is here found is of much value. Eder, *Jahrbuch der Photographie und Reproduktionstechnik fur das Jahr* 1905. Published by Wilhelm Knapp, Halle a. S., Germany, price 8 marks.

The *Photographic Student* is just at hand from the California College of Photography, by which it is issued monthly in the interests of photography and the students of this progressive institution. It is a well printed, carefully prepared publication, intended to interest amateurs and occasional workers in the more serious side of photography from its professional viewpoint. Once their interest has been secured on these lines, the college does the rest.

The *Photographic Student* is, we believe the first publication of its kind to be issued in the sole interest of a photographic educational institution.

Mr. Milton Waide's "one- man method" of photography has been before the photographic public long enough to be familiar by name at least to most professional workers. Mr. Waide has hitherto carried on a studio on Fifth Avenue, where, in addition to demonstrating his method to students, he has at the same time demonstrated the value of his method by practical application to his own business. He has now, however, given up his studio and purposes to devote his entire time and attention to the development of his one-man method of photgraphy and the instruction of professional workers in its application. Mr. Waide's announcement in the advertising pages of this number will be read with interest.

PORTRAIT

By Notman & Son, Montreal, Canada.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. MARCH, 1906. No. 591

THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA. REPORT OF THE EXECUTIVE MEETING.

THE report of the Executive Committee of the P. A. of A. held on January 18, was received too late to be inserted in the February issue of the magazine.

The Executive Committee of the Photographers' Association of America met at the Prospect House, Niagara Falls, N. Y., January 18, 1906, for the purpose of making arrangements for the 26th Annual Convention. All officers being present. Charles Wesley Hearn, president; C. J. VanDeventer, first vice-president; C. D. Lewis, second vice-president; F. R. Barrows, treasurer and Frank W. Medlar, secretary.

The report of the Secretary was as follows:

The president appointed C. J. Van Deventer and C. L. Lewis to audit the accounts of the ex-Secretary and Treasurer which were found to be correct, and the same were approved.

It was decided that the convention be held on August 7, 8, 9, 10 in the Cataract-International Hotel, and will be known as The Niagara Falls Convention of the Photographers' Association of America.

Moved and seconded: That we appropriate $500.00 to the Copyright League to assist the committee in securing legislation favorable to a more complete copyright law in the interests of the photographers of America. And that it be the sense of this Board to express its willingness to further aid in the prosecution of this work when we are assured that such legislation is possible and progressing favorably. *Carried.*

Moved and seconded: That we hold the convention in the Cataract-International Hotel, Niagara Falls, N. Y., August 7, 8, 9, 10 and that the meetings, exhibits and official headquarters be in the Cataract section of said hotel. *Carried.*

Moved and seconded: That the courtesies of Room "A" be extended to the New York State Association of Professional Photographers. *Carried.*

Moved and seconded: That we eliminate prizes from the convention. *Carried unanimously.* The president voting.

Moved and seconded: That twenty-five pictures be selected as a Salon exhibit and such pictures shall be officially recognized by the association. *Carried.*

Moved and seconded: That we recommend the Salon exhibit be used as the illustration for the Association Review for 1907 thereby enabling each of our members to posess copies for future reference and study. *Carried.*

Moved and seconded: That $200.00

be appropriated by the Association toward the Entertainment Fund. *Carried.*

Moved and seconded: That a printed ballot slip be prepared to be used in balloting for the election of officers and that no other than this official ballot be recognized. *Carried.*

The following committees were then appointed: E. E. Poole, St. Catharines, Ont., Committeeman for Canadian interests.

Hotels and Accommodations—C. L. Lewis, Frank W. Medlar.

Entertainment—E. F. Olmstead, Chairman, Niagara Falls; C. L. Lewis, C. J. VanDeventer, J. Geo. Nussbaumer.

Decoration and Hall—C. J. VanDeventer, C. L. Lewis, Frank W. Medlar.

Ladies' Reception Committee—In charge of Mrs. E. F. Olmstead, Niagara Falls.

Membership Buttons—F. R. Barrows, C. J. VanDeventer.

Press Committee—C. J. VanDeventer, C. L. Lewis, Frank W. Medlar.

Transportation—C. L. Lewis, F. R. Barrows, E. E. Poole.

Printing and Advertising—Charles Wesley Hearn, F. R. Barrows, C. L. Lewis.

Association Review—C. L. Lewis, C. J. VanDeventer, Charles Wesley Hearn.

Information—F. R. Barrows, F. W. Medlar.

Local Press—T. Smith, Niagara Falls, N. Y.

(Signed) FRANK W. MEDLAR.
SPENCER, IOWA. Secretary.

The report makes a favorable showing for the Association; the Treasurer showing a substantial balance on hand. The sources of income are amply detailed but the same cannot be said of the expenditure—amounting to seventy-five per cent. of the total receipts.

The Niagara Convention under Mr. Hearn's guidance will undoubtedly be a great gathering and we urge all our readers to support the officers by preparing an exhibit of their very best work. The honor of being represented among twenty-five Salon pictures is worthy of the very best effort.

We heartily commend the resolution of the Executive Committee in deciding to reproduce the Salon pictures in the 1907 *Review*—it will then become what its name implies.

THE POLICY OF THE NIAGARA FALLS CONVENTION.

BY CHARLES WESLEY HEARN,
President Photographers' Association of America.

A Convention that is designed to be on a basis of more fraternal professional courtesy, to educate our members to be broader, busier and more successful business men, with the product of our skill made upon honor.

WHILE not desiring it to be understood or implied that I personally abate a single iota from advocating the persistent pursuit of the higher ideals in photography, or the tenacious holding of any measure of success toward this end that any of us may have acquired, yet I feel that I would be false to myself and unworthy of the great honor and trust reposed in me, if I did not defend, and attempt to carry to a successful issue, the above defined policy, ***which I think is the urgent need of the hour.***

The artistic side of photography has for years been the loudest, and ofttimes the only note struck upon the platform

of our conventions. Those of our members who prefer that this should still continue to be the dominating idea, or at least divided up as usual with other objects of interest, are urgently requested for this one year *to let the art instruction be derived solely from the fine pictures that your officers will endeavor to collect together for this purpose.*

Most successful results are obtained by concentration of efforts toward a specific end, and bringing all forces to bear toward that accomplishment. With your kind co-operation I will try to so serve you, that the mapping out of the details of the policy with final accomplished results will prove beneficial to all of us. Our lecturers and instructors will be those well qualified for the task, being selected for their special fitness for the various assignments.

The business side of photography is a big field to cover, full of detail at every turn, the mastery of which is vital to us all. Commencing with the first step into the entrance of our studios in the morning, until the final departure at night, with the door locked behind us, the only proposition arranged for our speakers, etc., will be the business side of our photographic establishments, the art side of the work therein, to be considered without art sentiment *per se* but as a business proposition pure and simple.

The economical management of time, your own as well as your assistants, the photographic display at the door and in the studio as a business proposition, are to be considered in connection with the science of salesmanship, courteous treatment in office, and under the skylight as a business asset, etc.

Also the following—how the operator can increase sales in the office by his method under the light—how to make pictures that your customers want and will buy—how to learn that none of your patrons desire *bad* pictures because they don't want what you like—how to obtain and retain the respect and esteem of your patrons—wise and false economies in use of photographic material—how to buy—how to advertise, etc., etc., *all of these and many other pertinent matters will be taken up at our convention, or in our Association Magazine*, which will be conducted to supplement and assist in conducting the general aim of the convention.

The administrative policy will also be apparent in various ways during the present year, prior, as well as subsequent to the convention itself. May I bespeak for your officers the cordial and loyal support of all our members? Mutual co-operation for mutual benefits.

A PAINTER PHOTOGRAPHER—J. H. GARO.

BY SIDNEY ALLAN.

When I first met J. H. Garo I hardly trusted my eyes. Surely that man can be no adherent of old pictorial formulæ and a T-square art—no ordinary photographer! Why, with his hat tipped over his eyebrows, and a hand shaped like that of a painter's, caressing a mustache that is defiantly twisted up—he has the air of some Bobadil of Tripolis—of a pirate of the Algerian coast.

Nevertheless, he is a photographer, but one who can draw and who does not hesitate to make use of these qualities and paint like an artist in his portraiture. His aim is to attain the maximum of personal intensity in his photographic work.

The *Garograph*, as he has termed his photographic production, does not necessarily decry conventional photography. There is a place for the clear, sharp, over-retouched portrait. There are times when the old ways are aptest and best. But Garo himself wanders on new roads. He has a personal mode of feeling and think-

ing, and searches for an adequate and personal fashion of expressing himself. If he had only conventional things to say, the old style would suit him well enough, but as he has, like Pierce and others, something special to say, he must find for himself a special and unique mode of expression.

He is an Armenian by birth; he came to America when he was sixteen. Slowly he has made his way. Ten years ago he entered the photographic field. Four years ago he opened his studio, the most beautiful studio in Boston, unlike any one I have ever seen. Since then he has rowed lustily against the stream. He does not wish to make any concessions to popularity. He does not want any pictorial expression learned by rote, or garrotted by a thousand rules which others have invented—but that personal touch which is inveterately the artist's own.

In simple words, Garo's ambition is to produce in photographic monotone, pictorial qualities such as we admire in painting.

It is surely a tribute to Garo's ability that his work accomplishes this in a more pronounced degree than we are used to encounter, even in the most advanced professional realms, and that he is able to run a studio on these artistic lines.

Little by little his work has become known to those whom it was once the mode to call *cognescenti.* He gained admirers and disciples. Last year he received a splendid recognition at the national convention. He sent one single print to the Exhibition, and it attracted more attention than all the other exhibits together.

Chiaroscura should be to the photographer what color is to the painter. Few have realized this as fully as Garo. To him light creates space and roundness, and he distributes his light planes scientifically by emphasizing them on the face and "using less light" on the body. In his standing figures both head and body are seen under common daylight, but the light values in the figure grow more and more subdued the farther they recede from the predominating light. Sometimes his strongest light accents shimmer like pearls set in a deep rich tone to which the rest of his composition is subordinate. Reserve and fidelity go hand in hand in his work, and although I am not quite prepared to become an adherent of his peculiar style, of composing solely in two principal tones, a light and a dark one, (six or eight tones would be more to the point), I admire the characteristic breadth of his treatment joined as it is to an extreme delicacy of execution.

His technique is rather an elaborate one, and would hardly bear the endorsement of the advocates of straight photography, Garo is a painter, water colorist, monotypist almost as much as he is photographer, and consequently a very clever and industrious manipulator of the negative. Involuntarily a comparison with E. J. Steichen suggests itself. Both men understand the value of the subordination of parts of the main subject, of right emphasis, of more careful definition at the chief points of interest, and of that general harmony of line, mass, tone, light and shade which we look for among the fundamentals of an ordinary picture. Both men are deficient in producing likenesses, and too much given to "esthetic subtlety," "decorative harmony," and "soulful composition" and that sort of thing. They claim too much interest for the artistic quality of their portraits and become utterly oblivious to the fact that too much "poetic atmosphere" may offend the fundamental laws of depiction.

There is no doubt that Steichen is by far the more fluent and versatile of the two in artistic expression, but he is absolutely deficient of photographic texture. He is just like the men who in a race of sailing yachts would have no scruples in using a propeller in addition to his sails. Garo, although not half as clever, is hardly ever *unphotographic,* technically as little as in the choice of his subjects, He is never guilty of producing figures that have no faces, hands that look like flappers, or pictures that are entirely clouded over by a granular veil. Nor do

his faces stare at us as familiarly as out of well-known masterpieces of painting. Also Garo's work contains certain of the ideals and characteristics, together with the same general conception of things, that one finds in the work of a Watteau, for instance, but his pictorial conception does not necessarily copy from the past. it carries on the tradition, yet is different transformed as it were, because more truly photographic.

Garo's men's portraits are often beautiful. His photographic drawing, although soft and blurred, is always nervous, full of accent and virility. What could be more forceful than the drawing of the nose and mouth in the portrait of Mr. F. E. Aiken, and yet what more sensitive! Look, too, at the rendering of the wrinkles and the firmness in the otherwise so smoothly washed contour. And behind all this is that sense of something being passionate and alive which so few partraitists give us. Also his Joe Jefferson is a fine piece of work. There is much power in the face, an infinite delicacy in the modeling of the high cheek bones, thin temples, and faintly humorous mouth, while the necessary accent is obtained by the depth of the eyes. And then his improvisation of Proctor. (One can scarcely call it a portrait.) Where did he acquire that wonderful control of light? The eye lingers lovingly over the exceptional richness of the execution, the superb chiaroscural display, which is of the very first order, while faithfully playing at the same time its proper part in the ensemble—it is a notable portrait, indeed.

Among his women's portraits I was particularly attracted by the one photograph which hangs in his "waiting" or "getting into the right mood" room (Garo has a special one for this purpose) among a lot of oil paintings, and yet holds its own. It is a full length portrait of a young lady, and especially attracts our attention by the manner in which she has been surprised in her most characteristic attitude, quietly poised, looking straight ahead, and yet carrying out the nervous accent and all the instinctive grace of the American woman. It shows him to be as enthusiastic an observer of character as a passionate admirer of tone.

And why is such a man not a wielder of the brush? Not to be able to be oneself is indeed a sad affair; or does he really believe that he is the photographer who "will bring mighty things to pass?"

At thirty-three a man stands only at the threshold of his life, and one, therefore, may be warranted in prophecying without fear of contradiction that Garo's peculiar line of work will gain a widespread and deserved approbation. His energetic, far-seeing and vigorous development of "a method for the few" that he has consistently believed in and labored for, is worthy of the success he has already achieved, and of the encouragement of all those who like to see themselves portrayed as another personality views them. His ideal would be to make only one (or a very limited number of copies) of each person, to carry it out in large size, to make it absolutely a personal creation, as Boldini has painted Whistler and Whistler the violinist Sarassate. Some golden day in the future (he does not necessarily need to wait until Goldensky brings about the new era) his studio will be open solely to those who desire original work, thus preserving his style of expression from the degradation which it would certainly suffer from ordinary routine portraiture, so that each pictorial masterpiece issued from his studio will possess the additional value of being the only one of its kind in existence. It is difficult, indeed, not to become enthusiastic over the idea of the gorgeous aspect of such a portrait gallery. Each one of his own choice, representing a unique specimen of character or beauty, and embellished with the most varied and brilliant effects.

The motto which has always expressed Garo's artistic aspiration is, "The utmost for the highest." And he has always lived up to it. In a day when the only form of portrait photography which is financially successful is the pleasing

likeness, he has preferred to devote himself to the dictates of his fancy, and only to take portraits of people who interest him personally. His object has always been to produce pictures which came to him in his own way, and to satisfy his inner vision before anything else. May he flourish in the land of his adoption.

NOTES ON INTENSIFICATION: THEORY AND FORMULÆ.

BY MATTHEW WILSON.

The paper given below presents the theory underlying the best methods of intensifying negatives and includes typical formular for practical use.

Copper Intensifiers.

EXCEPT for wet plate work, the copper intensifiers do not find much favor nowadays among photographers. This is mainly attributable to the fact that, belonging, as these baths do, to the indirect class of intensifiers, they are generally employed in conjunction with nitrate of silver, the use of which in the treatment of gelatine-bromide plates is, of course, productive of staining and other evils. Moreover, the opacity produced when some other reagent is substituted for the nitrate solution is in general too slight to justify the trouble that is incurred in working the process. It is to be regretted such is the case, as this form of intensification, apart from the disadvantages just mentioned, is quite free from the objectionable features characteristic of intensification effected by means of the mercurial bath.

Cupric bromide is the salt usually employed in the preparation of the reducing bath in this form of intensification. The chemical action exerted by the bromide solution on the image is analogous to that of the mercuric chloride bath, there being here formed, as insoluble reduction products, silver bromide and cuprous bromide in place of the silver chloride and mercurous chloride produced by the latter:

$$4Ag_2 + 8CuBr_2 = 8AgBr + 4Cu_2Br_2$$

The intensifying bath is generally prepared by double decomposition, cupric sulphate and potassium bromide being the salts employed. A solution of the following strength is recommended for use:

Cupric sulphate . .	96 grains,
Water, ...	8 fluid ounces,
Potassium bromide,	65 grains,

The salts are to be dissolved separately and the solutions, after mixing, allowed to stand for a few hours and then filtered before use. The reduction products that are obtained by the action of the bromide solution on the image are colorless or nearly so, and practically insoluble in water.

In Wet Collodion Work.

For wet plate intensification a two per cent. solution of nitrate of silver should be employed. The bleached image, after washing, is immersed in the silver bath, and allowed to remain therein until the metallic deposit exhibits the degree of opacity that is desired.

The chemical change that occurs is brought about by the cuprous bromide, which acts upon the nitrate as a reducing agent, removing the silver and liberating the nitric acid, the latter combining with the copper to form cupric nitrate in accordance with the equation given below:

$$8AgBr + 4Cu_2Br_2 + 16AgNo_3 = 4Ag_2 + 8Cu(NO_3)_2 + 16AgBr.$$

The action probably takes place in three stages. In the first of these, cupric bromide appears to be formed by the conversion of half of the copper into nitrate. In the second stage, the bromide attacks the newly deposited silver, con-

verting half of it into a silver bromide, and becoming itself reduced to the cuprous state. In the last stage, the cuprous salt is converted into nitrate, and its bromine unites with the silver to form a fresh deposit of silver bromide. These several stages of the process are here represented in the form of equations:

(*1st stage*):

$$8AgBr + 4Cu_2Br_2 + 16AgNO_3 = 4Ag_2 + 8AgBr + 4Cu(NO_3)_2 + 4CuBr_2 + 8AgNO_3;$$

(*2d stage*):

$$4Ag_2 + 8AgBr + 4\,Cu\,(NO_3)_2 + 4CuBr_2 + 8AgNO_3 = 2Ag_2 + 12AgBr + 4Cu(NO_3)_2 + 2Cu_2\,Br_2 + 8AgNO3;$$

(*3d stage*):

$$2Ag_2 + 12AgBr + 4Cu(NO_3)_2 + 2Cu_2Br_2 + 8AgNO_3 = 4Ag_2 + 16AgBr + 8Cu(NO_3)_2.$$

The reduction to the metallic state of the silver bromide formed by the action of the copper and nitrate baths is usually accomplished by treating the plate, after washing to remove all traces of free nitrate, with a suitable developing agent. Either metol-sulphite, hydrokinone-sulphite or pyro-soda may be employed for this purpose. The first mentioned is said to give the greatest intensifying effect. The following formula for the preparation of the hydrokinone bath for intensifying purposes has been given:

Hydrokinone, . . .	24 grains,
Sodium sulphite, . .	180 grains,
Sodium carbonate, .	360 grains,
Water, ...	5 fluid ounces

The abstraction of the combined bromine brought about by the agency of the developer leaves the image in this, its final, form:

$$4Ag_2 + 16\,AgBr = 12Ag_2 + 8Br_2.$$

The density of the intensified image, stated as usual in terms of its molecular weight, is 2583.84, that is, 107.66, the atomic weight of silver, multiplied by 24. The original density—that of four molecules of silver—being 861.28, we find by subtraction that the increase of density consequent on intensification is 1722.56, or exactly twice the original density. In regard to the molecular volume, the atomic volume of silver being 10.2, that of 12 molecules (24 atoms) of the metal is of course 244.8. Deducting from this the original volume, 81.6, there remains for the increase of volume, 163.2, which is also equal to just twice the original value.

For Gelatine Negatives.

The intensification of gelatine-bromide plates which have been treated in the copper bath may be effected by means of a solution of sodium sulphide or potassium chromate. The sulphide bath appears to convert the reduction products into argentic and cuprous sulphides, sodium bromide being at the same time formed:

$$8AgBr + 4Cu_2Br_2 + 8Na_2S = 4\,Ag_2\,S + 4Cu_2S + 16NaBr.$$

The color of the image after intensification is a light brownish-red, somewhat resembling that produced by means of the uranium ferricyanide bath.

The molecular weights of argentic sulphide and cuprous sulphide being respectively 247.30 and 158.34, the total density of the intensification products is:

$$(247.30 \times 4 - (158.34 \times 4) = 1622.56.$$

This, after deducting 861.28, the original density, shows an increase of density amounting to 761.28, which is equal to almost twice the original value.

The specific gravity of artificially prepared cuprous sulphide is 5.71, and the reciprocal of this number is 0.1751. The specific gravity of silver sulphide is 6.85, the reciprocal of which is 0.14598. The total molecular volume of the intensification products may therefore be calculated thus:

$$(158.34 \times 0.1751 \times 4) + (247.30 \times 0.14598 \times 4) = 255.30$$

The increase of molecular volume, found by subtraction of 81.6, the original volume, from 255.30, amounts to 173.70, or more than twice the volume before intensification. In working with this intensifier, care is required in the manipulations to avoid staining the image. The plate should be soaked before treatment for at least half an hour in several changes of water in order that the last traces of thiosulphate may be removed.

Another point that requires attention is that the plate should not be allowed to remain in the sulphide bath any longer than is absolutely necessary, as the solution has a certain tendency to dissolve the intensification products.

The chromate bath gives an image of a deeper and colder shade of brown than that produced by the above. There is no doubt that the intensifying action of this bath is due to the conversion of the haloid reduction products into chromate of silver and a basic chromate of copper. The change, however, cannot be presented in the form of an equation, seeing that the formula of the copper compound produced has not been definitely determined.

By treating the image after intensification with a moderately concentrated solution of ammonia, a brown of a lighter and more non-actinic shade may be obtained. Part of the copper is removed by this treatment, and passes into solution, imparting a green color to the bath.

The Manganese Intensifier.

A weak solution of potassium permanganate is sometimes employed as a direct intensifier in the wet plate process. The intensifying action exercised by this reagent is the result of the decomposition of the permanganate by the silver. The latter is converted into argentic oxide, and the former is reduced to potassium manganate, whilst the manganese which is abstracted during these operations is deposited on the image in the form of the brownish-black dioxide. The equation here given has been suggested as representing the change that actually takes place:

$$2K_2Mn_2O_8 + 4Ag_2 = 2K_2MnO_4 + 2\,MnO_2 + 4Ag_2O.$$

The color of the image after intensification is a yellowish brown. The reaction is productive of a comparatively slight increase in the density of the image, but the increase in the molecular volume is considerable. For the calculation of the total density we have for the respective molecular weights of manganese dioxide and argentic oxide the numbers 86.72 and 231.28. Multiplying by the numbers of molecules in the usual way we arrive at the result given below:

$$(86.72 \times 2) + (231.28 \times 4) = 1098.58$$

The original density was 861.28, and this subtracted from 1098.58 leaves 237.28 for the increase of density, a number which is only a little more than a quarter of the density of the silver present. To enable us to calculate the molecular volume we require the specific gravities of the intensification products in the form in which they are obtained by precipitation. The specific gravity of manganese dioxide in this condition is 4.60, and that of oxide of silver is 7.147. The reciprocals of those numbers are respectively 0.21739 and 0.1399. We have then for the total molecular volume:

$$(86.72 \times 0.21739 \times 2) + (231.28 \times 0\ 1399 \times 4) = 167.12.$$

The increase of molecular volume is ascertained by deducting 81.6 from the total volume The remainder is 85.52, and the increase therefore slightly exceeds the original volume.

A suitable intensifying bath may be prepared by dissolving forty grains of potassium permanganate in half a pint of distilled water. The solution, which, when not in use, should be carefully preserved in a stoppered bottle, must not be allowed to come in contact with any organic matter, otherwise the intensifying properties will be impaired.

The Silver Intensifier.

Strictly speaking, the so-called copper intensifier, and also the better known potassic-argentic cyanide bath are really silver intensifiers, although (probably for mere convenience of reference) these have been classified by photographers under distinct heads. Another form of silver intensifier, which has achieved a greater degree of popularity than either of the above, and which has been found very serviceable in wet plate work, is that in which a salt of iron is employed to effect the reduction of the silver compounds. The salt usually selected for this purpose is ferrous sulphate. The

iron solution, which is acidified by the addition of acetic acid, is mixed with a few drops of a two per cent. solution of nitrate of silver immediately before use. On pouring the mixture over the plate that is to be intensified, the silver is gradually deposited, and attaches itself to the metallic nucleus, increasing the density, volume and opacity of the image in proportion to the amount of silver present as a basis.

The decomposition of the nitrate by the action of the ferrous salt is usually represented in the form of the equation here given:

$$6\,AgNO_3 + 6FeSo_4 - 3Ag_2 + 2Fe_2(SO_4)_3 + 2Fe(NO_3)_3$$

The soluble products of the reaction are ferric sulphate and ferric nitrate. The intensification may be effected either before or after fixing. In the latter case, it is usual to convert the image partially into silver iodide before applying the iron solution, in order to obtain a working basis of nascent silver. This is generally done by flooding the plate for a few seconds with a weak solution of iodine in potassium iodide. After washing, the mixed intensifying solution is applied in successive portions until the required degree of opacity is produced. The reaction may perhaps take place in accordance with the equation below:

$$8AgI + 6AgNO_3 + 15FeSO_4 = 7Ag_2 + Fe_3I_8 + 2Fe(NO_3)_3 + 5Fe_2(SO_4)_3.$$

Another form of silver intensifier is that in which pyrogallol and citric acid are employed in place of ferrous sulphate. As a substitute, this combination is sometimes recommended by photographic authorities, but it cannot be regarded as in any way superior to the iron intensifier.

On account of the action of nitrate of silver upon gelatine, neither the iron nor the pyro-silver intensifier is suitable for employment in the intensification of gelatine-bromide plates.

Owing to the circumstances that silver intensification is what is sometimes termed a "physical" process, that is—putting the expression into chemical phraseology—a process the products of which are not definitely molecular, it is not possible to express in the usual comparative quantitative form the density and molecular volume acquired by the image as the result of the intensifying operations. The silver deposit may, in fact, be increased to any desired extent by the continued application of the nitrate solution.

The Gold Intensifier.

The opacity of the photographic image may be slightly increased by the substitution of metallic gold for the original silver. The intensification is usually effected by means of a solution of auric chloride. The action of the bath is represented thus:

$$3Ag_2 + 2AuCl_3 = Au_2 + 6\,AgCl.$$

The total density produced when the gold is substituted for four molecules of silver is:

$$196.8 \times 2.666 = 524.66$$

The loss of density consequent on intensification is, therefore,

$$861.28 - 524.66 = 336.62$$

This is almost exactly half the original density.

The atomic volume of gold is 10.2, or the same as that of silver. The total volume of the intensification deposit is therefore:

$$10.2 \times 2.666 = 27.19$$

Deducting this figure from 81.6, we have 54.41 for the loss of volume experienced by the image in the process of substitution of the one metal for the other. This is nearly three-quarters of the original volume. It is quite evident, therefore, that the intensifying effect produced by the gold bath must be attributed almost entirely to the color of the metallic film that is deposited.

According to Vogel, the intensifying solution as usually prepared consists of 15 grains of chloride of gold dissolved in 35 fluid ounces of water.

The Platinum Intensifiers.

When a solution of platinic chloride is brought in contact with metallic silver,

the platinum is deposited, and the silver is converted into chloride:

$$4Ag_2 + 2PtCl_4 = 8AgCl + Pt_2$$

It has accordingly been proposed to employ platinic chloride in this manner for intensifying purposes, and to remove the chloride of silver from the image by a subsequent treatment of the plate in the ordinary thiosulphate fixing bath. Owing to its black color, the opacity of the resulting platinum image is generally greater than that of the original silver deposit. The intensifying operations are, however, as a matter of fact, productive of a loss both of density and molecular volume. The atomic weight of platinum is 194.3, and twice this number, 388.6, represents the density of the molecule of the metal deposited by the action of the bath. But the density of the four molecules of silver that are removed from the image is 861.28, and therefore the loss of density consequent on intensification is represented by the number 472.68, or more than half the original density. Again, the atomic volume of platinum is 9, and that of the molecule is 18. On subtracting the latter number from the original volume, 81.6, there remains 63.6. The image, therefore, suffers on intensification a loss of molecular volume amounting to more than three-quarters of the silver abstracted.

There is an improved form of platinum intensifier, the invention of Mr. Willis, in which the intensification is effected indirectly, and which gives much better results than those obtained by the use of the platinic chloride bath. In the first stage of the operations, the silver image being treated in a solution of ferric oxalate, is converted into silver oxalate at the expense of part of the oxalic acid of the iron salt:

$$4Ag_2 + 4Fe_2(C_2O_4)_3 = 4Ag_2C_2O_4 + 8FeC_2O_4$$

The plate is next well rinsed in water in order to remove all traces of ferrous oxalate, and is then immersed in a weak aqueous solution of potassium chloroplatinite. The silver oxalate is thereby decomposed, and silver choloroplatinite is formed in its place:

$$4Ag_2C_2O_4 + 4K_2PtCl_4 = 4\,Ag_2PtCl_4 + 4\,K_2C_2O_4$$

Lastly, the reduction of the silver and platinum to the metallic state is effected by means of a solution of ferrous oxalate, or by the ordinary potassio-ferrous oxalate developer. When the latter is employed as the reducing agent, the reaction may be expressed in the following form:

$$4\,Ag_2PtCl_4 + 8K_2Fe_2(C_2O_4)_3 = 4\,Ag_2 + 2Pt_2 + 8Fe_2(C_2O_4)_3\,16KCl.$$

The increase of density that results on intensification, amounting to 777.2, or nearly the original density of the image, is wholly due to the deposited platinum. The total density is 777.2, plus 681.28, that is, 1458.48. Similarly, the increase of molecular volume is represented by the number 36 (that is, 4 times 9, the atomic volume of platinum), and this, added to the original volume, 81.6, gives 117.6 for the total volume of the intensification products. The increase of volume here, as compared with that of density, is unusually small, and must be regarded as exceptional.

Unfortunately it has been found that solutions of platinum salts attack and coagulate gelatine, a feature which practically debars their employment in modern dry plate work.

Airtight Corks—One of the pharmaceutical organs suggests the following method for making corks airtight, and it may be useful to those who do not care to invest in rubber corks, which are much superior. Tie the corks to a piece of lead and immerse for some hours in

Gelatine	15 grs.
Glycerine	15 m. (by weight)
Water	1 oz.

at a temperature of about 115° F., and then allow them to dry, when they will be quite flexible, but airtight.

ALVIN LANGDON COBURN.

AN APPRECIATION BY GEORGE BERNARD SHAW.

Mr. Coburn—who until recently had a studio on Fifth Avenue, New York, and who is one of the few professional members of the Photo-Secession, is holding an exhibition of his work in London. The foreword to the catalogue contains the following appreciation from the pen of G. Bernard Shaw.

MR. ALVIN LANGDON COBURN is one of the most accomplished and sensitive artist-photographers now living. This seems impossible at his age—twenty-three; but as he began at eight, he has fifteen years' technical experience behind him. Hence, no doubt, his remarkable command of the one really difficult technical process in photography—printing. Technically, good negatives are more often the result of the survival of the fittest than of special creation: the photographer is like the cod which produces a million eggs in order that one may reach maturity. The ingenuities of development which are so firmly believed in by old hands who still use slow "ordinary" plates, and develop them in light enough to fog a modern fast color-sensitive plate in half a second, do not seem to produce any better results than the newer timing system which is becoming compulsory now that plates are panchromatic and dark rooms must be really dark. The latitude of modern plates and films, especially those with fast emulsions superimposed on slow ones, may account partly for the way in which workers like Mr. Evans get bright windows and dark corners on the same plate without over-exposure in the one or under-exposure in the other. And as to choosing the picture, that is not a manipulative accomplishment at all. It can be done by a person with the right gift at the first snapshot as well as at the last contribution to The Salon by a veteran. But printing remains the test of the genuine expert.

Very few photographers excel in more than one process. Among our best men, the elder use platinotype almost exclusively for exhibition work. People who cannot see the artistic qualities of Mr. Evans' work say that he is "simply" an extraordinarily skilful platinotype printer, and that anybody's negatives would make artistic pictures if he printed them. The people who say this have never tried (I have); but there is no doubt about the excellence of the printing. Mr. Horsley Hinton not only excels in straightforward platinotype printinng, but practices dark dexterities of combination printing, putting the Jungfrau into your back garden without effort, and being able, in fact, to do anything with his methods except explain them intelligibly to his envious disciples. The younger men are gummists, and are reviled as "splodgers" by the generation which cannot work the gum process.

But Mr. Coburn uses and adapts both processes with an instinctive skill and range of effect which makes even expert photographers, after a few wrong guesses, prefer to ascertain how his prints are made by the humble and obvious method of asking him. The device of imposing a gum print on a platinotype—a device which has puzzled many critics, and which was originally proposed as a means of subduing contrasts (for which, I am told, it is of no use)—was seized on by Mr. Coburn as a means of getting a golden brown tone, quite foreign to pure or chemically toned

platinotype,whilst preserving the feathery delicacy of the platinotype image. Lately having condescended to oil printing as a subsidiary study, he has produced some photographic portraits of remarkable force, solidity, and richness of color, by multiple printing in gum. Yet it is not safe to count on his processes being complicated. Some of his finest prints are simple bromide enlargements, though they do not look in the least like anybody else's enlargements. In short, Mr. Coburn gets what he wants one way or another. If he sees a certain quality in a photogravure which conveys what he wants, he naively sets to work to make a photogravure exactly as a schoolboy with a Kodak might set to work with a shilling packet of P. O. P. He improvises variations on the three-color process with casual pigments and a single negative taken on an ordinary plate. If he were examined by the City and Guilds Institute, and based his answers on his own practice, he would probably be removed from the class-room to a lunatic asylum. It is his results that place him "hors concours."

But, after all, the decisive quality in a photographer is the faculty of seeing certain things and being tempted by them. Any man who makes photography the business of his life can acquire technique enough to do anything he really wants to do: where there's a will there's a way. It is Mr. Coburn's vision and susceptibility that make him interesting, and make his fingers clever. Look at his portrait of Mr. Gilbert Chesterton, for example! "Call that technique? Why, the head is not even on the plate. The delineation is so blunt that the lens must have been the bottom knocked out of a tumbler, and the exposure was too long for a vigorous image." All this is quite true; but just look at Mr. Chesterton himself! He is our Quinbus Flestrin, the young Man Mountain, a large, abounding, gigantically cherubic person who is not only large in body and mind beyond all decency, but seems to be growing larger as you look at him—"swellin' wisibly," as Tony Weller puts it. Mr. Coburn has represented him as swelling off the plate in the very act of being photographed, and blurring his own outlines in the process. Also, he has caught the Chestertonian resemblance to Balzac. You may call the placing of the head on the plate wrong, the focussing wrong, the exposure wrong, if you like, but Chesterton is right, and a right impression of Chesterton is what Mr. Coburn is driving at. If you consider that result merely a lucky blunder, look at the portrait of Mr. Bernard Partridge! There is no lack of vigor in that image: it is deliberately weighted by comparative under-exposure (or its equivalent in under-development), and the result is a powerfully characteristic likeness. Look again at the profile portrait of myself "en penseur," a mere strip of my head. Here the exposure is precisely right, and the definition exquisite without the least hardness. These three portraits were all taken with the same lens in the same camera, under similar circumstances. But there is no reduction of three different subjects to a common technical denominator, as there would have been if Franz Hals had painted them. It is the technique that has been adapted to the subject. With the same batch of films, the same lens, the same camera, the same developer, Mr. Coburn can handle you as Bellini handled everybody; as Hals handled everybody; as Gainsborough handled everybody; or as Holbein handled everybody, according to his vision of you. He is free of that clumsy tool—the human hand—which will always go its own single way and no other. And he takes full advantage of his freedom instead of contenting himself, like most photographers, with a formula that becomes almost as tiresome and mechanical as manual work with a brush or crayon.

In landscape he shows the same power. He is not seduced by the picturesque, which is pretty cheap in photography and very tempting. He drives at the poetic, and invariably seizes something

that plunges you into a mood, whether it is a mass of cloud brooding over a river, or a great lump of a warehouse in a dirty street. There is nothing morbid in his choices. The mood chosen is often quite a holiday one; only not exactly a Bank Holiday; rather the mood that comes in the day's work of a man who is really a free worker and not a commercial slave. But anyhow, his impulse is always to convey a mood and not to impart local information, or to supply pretty views and striking sunsets. This is done without any impoverishment or artification. You are never worried with that infuriating academicism which already barnacles photography so thickly —selection of planes of sharpness, conventions of composition, suppression of detail, and so on. Mr. Coburn goes straight over all that to his mark, and does not make difficulties until he meets them, being, like most joyous souls, in no hurry to bid the devil good-morning, And so, good luck to him, and to all artists of his stamp. G. B. S.

ACETONE.

BY E. A. TURNER.

ACETONE being rather a live topic of discussion at present perhaps a few words in regard to its chemical properties and its uses in the developer may not come amiss.

Acetone is a chemical compound, just as alcohol and carbonate of soda are chemical compound. The elements which combine to form acetone are carbon, hydrogen, and oxygen; the molecular proportions being represented by the chemical formula C_3H_6O.

Acetone is a colorless liquid having an odor somewhat similar to the odor of peppermint. Its taste is also similar to that of peppermint. It is very mobile—that is, the surface of the liquid in the bottle is very easily agitated and its wave motions are more active than those of water.

Acetone is very readily inflammable. A little acetone poured out in a dish takes fire and burns very much like benzine or gasoline. It takes fire from a lighted match held half an inch above the surface of the liquid, and burns with an ordinary yellow flame. Acetone should be handled with quite the same precautions as benzine or gasoline. It is very volatile. If the finger is dipped in acetone and then held in the air, there is a strong sensation of cold due to the rapid evaporation of the acetone, and the finger is soon completely dry. This property of acetone has to do with one of its uses in the developer.

The chemical test for acetone is to add a solution of iodine in potassium iodide and then a solution of caustic soda to the solution to be tested. If acetone is present the odor of iodoform will be noticed.

Acetone is made by heating sodium acetate or calcium acetate. The vapors of acetone are given off and are condensed in suitable apparatus to liquid acetone. It is also obtained as a by-product in the process of distilling wood to make wood alcohol. It is an alkaline compound, and may be used in developer to replace carbonate of soda and carbonate of potash, the alkalines commonly employed. It is principally in pyro developer that acetone is used. A pyro developer prepared with acetone has different working properties from the usual pyro soda developer. The shadow detail appears very soon after the high-lights, but the negative must be left in the developer after the detail has appeared in order to gain density. When using pyro-soda, it is sometimes difficult to make a soft negative of a contrasty subject, for, by the time the detail has appeared, the high-lights are over-dense. With pyro-acetone, as with metol, a negative of any desired degree of softness may be secured, since the de-

tail appears early in the development and greater or less contrast in the negatives may be secured by developing a longer or shorter time.

Acetone also has less effect on the gelatine of the emulsion coating, than carbonate of soda. For this reason, pyro-acetone may be used at a temperature that would be impossible with carbonate of soda on account of frilling. This property makes pyro-acetone a valuable developer for warm climates.

In discussing the properties of acetone mention was made of its ready volatility. In a developer containing acetone, the acetone is continually evaporating and the vapor hovers over the surface of the developer. This vapor to some extent prevents the air from reaching the developer, and so tends to prevent the oxidation of the developer. When a one-solution developer is employed the vapor of the acetone will partially fill the space in the bottle, above the developer, and by preventing access of air it causes the developer to keep better than one without acetone.

In making up a developer containing acetone, we may consider that it will require about twelve times as much acetone in the developer as was necessary of carbonate of soda. It will also be necessary to increase the quantity of sulphite of soda. Pyro-acetone has a greater tendency to stain than pyro-soda and a larger proportion of sulphite is necessary to counteract this tendency.

A good formula for pyro-acetone is that recommended by Cramer:

A.

Water	24 ounces
Sodium sulphite	4 ounces
Pyro	1 ounce

B.

Water	20 ounces
Cramer's acetone	1 ounce

(Use one ounce of A to ten ten ounces of B.)

The prepared developer contains, on the basis of one ounce of pyro:

Water	240 ounces
Acetone	12 ounces
Sodium sulphite	4 ounces
Pyro	1 ounce

The Cramer formula for pyro-soda developer contains on the same basis:

Water	208 ounces
Sodium carbonate	1 ounce
Sodium sulphite	2 ounces
Pyro	1 ounce

Comparing the two formulæ the increased proportion of sulphite in the acetone developer is readily noticed, and also the fact that twelve ounces of acetone are necessary to replace one ounce of carbonate of soda.

As this discussion would not be complete without stating both sides of the question, we must mention the disadvantages of acetone. It is much more expensive than carbonate of soda, and about twelve times as much is required. But the materials for making a developer are so inexpensive that this is not of very great importance. To the traveling photographer the difficulty of carrying a large bulk and weight of liquid will prove a serious inconvenience.

Lastly, pyro-acetone is somewhat more prone to stain than pyro-soda and hence it is advisable to remove the plate from the developer as little as possible and to fix the developed plate in an acid fixing bath. The disadvantages of acetone are very slight, and are far overbalanced by the advantages which have been described. It is well worthy of a place in every photographer's workroom.

We learn that the Trunk Line Association will grant a one and one-third fare upon the certificate plan, to photographers attending the New York Photographers' Society Meetings, from all points in the State. Tickets at the full fare can be obtained April 2-5. When purchasing your New York ticket, see that you get a certificate. As these are not obtainable at all stations, it is advisable to make early application.

This reduced fare is conditional on an attendance of not less than 100 persons with certificates; it is requested that particular attention will be paid to the matter of securing certificates.

DEPTH OF FOCUS SIMPLIFIED.

BY C. WELLBORNE PIPER.

WHILE most photographers devote some little time to the theoretical and mathematical study of depth, very few put the information gained to any practical use. When at work they generally ignore theory, and if they cannot test the effect of a certain stop by observing the image on the ground glass, they simply trust to luck, tempered with a little uncertain knowledge gained by experience.

This is not to be wondered at, considering the complexity of the subject as it is generally expounded, and the erroneous ideas concerning it that are so prevalent. A man who is wedded to the idea that depth is solely governed by focal length and aperture, will never be able to reconcile theory with practice, unless, by chance, he is the fortunate possessor of a lens that works very nearly in accord with theory; and even in that case he is not likely to worry himself with the usually elaborate rules for calculating depth that are to be found in sundry text-books, while experience will soon teach him that tables of depth are altogether inadequate for practical work. A depth-indicating device used in conjunction with the focussing scale will be of very much greater utility than any tables, if properly adjusted to the lens in use, but even this useful device has, in common with the tables, the disadvantage of being adjusted to one particular standard of definition, which standard is in many cases not the one that the user of the lens cares to adopt, or should adopt. It is highly desirable to employ an elastic standard that can be varied according to the subject and the lens used, but unless we have a simple way of calculating depth, and are therefore independent of ready-made tables or other aids, it is difficult to allow for varying standards. The following method of calculation is, perhaps, the simplest that can be devised, and if any reader will take the trouble to master it, he will find that the estimation of depth available with a given lens, stop and circle of confusion, is, if anything, rather a simpler matter than the calculation and adjustment of conjugate distances when copying on a given scale.

Calculating Depth.—In order to be able to calculate depth without the aid of any tables or other devices, it is not necessary to remember more than one simple dimension (which may be called the "depth constant" of the lens) and the proper manner of utilizing that dimension.

Before describing this simple method of estimating depth, we must for a moment consider the tables and what they include. Two are to be found in the "Almanac," one by Sir D. Salomon and the other by Dr. J. J. Higgins. These two tables only differ by the inclusion of different series of focal lengths and stops.* Both are calculated for a circle of confusion of 1-100 of an inch, and both give what is called the hyperfocal distance for each stop. This hyperfocal distance is the distance of the nearest object in approximate focus when we focus sharply on an indefinite distance; and it also is the distance on which we should focus to obtain a maximum amount of depth, extending from half hyperfocal distance right up to infinity. As these facts are not quite clear in the tables themselves, an example may be given. Nineteen feet is given as the distance for a 5-in. lens with F.11. This means that if we focus on infinity all objects beyond 19 ft. are in focus. Also that if we focus on 19 ft., all objects beyond 9½ feet are in focus; and that the dis-

* The 1906 "Almanac" contains one table only, including all the information given in the other two.

tance from 9½ ft. up to infinity is then the maximum amount of depth attainable with a 5-in. lens working at F. 11. The tables do not in any way indicate the depth available when focussing on objects nearer than the hyperfocal distance; neither do they explain that depth with such near objects can be readily calculated with the aid of the hyperfocal distances.

A glance at the tables will show that the hyperfocal distance for any stop is always exactly proportional to the diameter of the aperture, so that if the aperture is, say, halved, the distance is also halved. Therefore, if we know the distance for F. 1, we can find it for any stop by the simple process of dividing it by the ratio number of the stop. For example, the hyperfocal distance for a 5-in. lens at F 1 being 208 ft., it is therefore 208/8, or 26 ft., at F. 8. For F. 11 it is 208/11 ft., or 19 ft.; and so on. Hence, if we simply remember the distance of 208 ft. in connection with the 5-in. lens, we can, by a moment's calculation, arrive at the hyperfocal distance for any stop, and therefore, at all the information that the table contains.

We can mark the 208 ft. on the lens itself, or, failing that precaution, we can quickly ascertain the distance if it is forgotten, for it is equal to 100 times the square of the focal length of the lens when the circle of confusion is 1-100 of an inch; or, in other words, it is equal to the square of the focal length divided by the diameter of the circle of confusion.

Thus we have only to remember this depth constant (or the way of arriving at it), and the method of using it, to be quite independent of all ready-printed depth tables. We can construct a table in two or three minutes that will contain just the information required, using any circle of confusion we please.

To find the depth available with any stop when focussing on a near distance of a definite number of feet, we need only to remember the following simple rule. Knowing the hyperfocal distance for the stop in use, and the distance of the object in sharp focus, if we divide the product of these two distances by their sum, we arrive at the distance of the nearest object in focus; while if we divide their product by their difference, we get the distance of the farthest object in approximate focus.

As an example, let us consider the following problem:—Suppose we are focussing with a 6-in. lens at F. 6 on an object 10 ft. away. What are the respective distances of the nearest and farthest object in focus? Taking 1-100 in. as the circle of confusion.

The depth constant for the lens is equal to $6^2 1 \div 1 = 100 = 300$ ft. The hyperfocal distance for F. 6 is therefore 300-6, or 50 ft.

When focussing on 10 ft. the limit of near depth must then be.

$$\left.\begin{array}{l} 50 \times 10 \\ 50 + 10 \end{array}\right\} \text{ or } 8\tfrac{1}{3} \text{ ft., and the limit of far depth must be}$$

$$\left.\begin{array}{l} \dfrac{50 \quad 10}{50 - 10} \end{array}\right\} \text{ or } 12\tfrac{1}{2} \text{ ft.}$$

This is a simple example that comes out in round numbers, but, as in practice, we, in any case, round off all numbers, problems such as this are always simple. At no time is there any advantage in being exact to an inch, for the best of lenses will give errors amounting to several inches.

(*To be continued*)

HINTS ON BROMIDE.

BROMIDE prints should be trimmed after drying.

SMOOTH papers preserve detail; rough papers give more breadth of effect.

ROUGH papers require less finishing or retouching than smooth papers.

GREY fog all over the print usually indicates an unsafe developing lamp or light leakage.

BLISTERS, if anticipated, can be prevented by sponging back of print with methylated spirit before development commences.

DARK specks may often be traced to particles of iron rust coming from the water tank or pipes.—*Photo. News.*

PORTRAIT

By Notman & Son, Montreal, Canada.

PORTRAIT

By Notman & Son, Montreal, Canada.

PORTRAIT

By Notman & Son, Montreal, Canada.

PORTRAIT

By Notman & Son, Montreal, Canada.

PORTRAIT

By Notman & Son, Montreal, Canada.

PORTRAIT

By Thuot Bros., Fall River, Mass.

From Das Atelier

HOME PORTRAIT

By W. Struck, Leipzig, Germany.

FLASHLIGHT GENRE

By Will A. Dunham, Corinth, N. Y.

Note the even illumination.

FLASHLIGHT PORTRAITURE IN THE HOME.

BY WILL H. DUNHAM.

FLASHLIGHT portraiture is fast becoming one of the necessary events in the life of the up-to-date photographer, more so at this season of the year when large numbers of social gatherings are being held, nothing being more commemorative than a good photograph of the occasion, and with the comparatively new inventions in the line of lamps and powders, it is now an easy operation to produce effects equally, and in some instances, excelling those made by daylight, especially in very dark rooms. Nevertheless it requires good judgment and skill to properly handle it, and considerable precaution.

The "Try-on," by Will H. Dunham.

In demonstrating my methods, I will try and give no one lamp or powder the preference, as this article is written wholly for the fraternity, and not for advertising purposes. No definite plans can be outlined, as nearly every exposure requires different arrangement, especially when being made at random in rooms of various sizes and colors.

There are a considerable number of good flashlight lamps and powders on the market, and of those burning the explo-

sive power I find the Nichol's, which has been demonstrated at the various conventions, especially proficient, and the ease with which it can be transported being a good feature. The great points in flashlight work are: Always send the light through the umbrella or a thin piece of cloth—this alone doing away with the harshness, and also keeping it from the view of the sitter. But a reflector can be used to good advantage in large work and studio subjects. *Never turn out the lights.* Rather get an extra two or three and thus close the pupils of the eye, doing away with the "stare." For all ordinary purposes one flash lamp will be sufficient, but on large gatherings two may be used—being operated in unison—one containing two-thirds and the other one-third of the powder to be consumed, the smaller amount being used to relieve the shadow side.

The placing of your light, and distance from the subject, together with the size and color of your room and objects, has much to do with the amount of powder to be used, and can be determined only with experience. Do not think the lamp must be placed behind the camera. In fact place it close up and to one side of the object, shading your lense if you are not working with a "hood." By placing the light as instructed, the shadows fall quicker and are not seen in the background, and the lighting resembles daylight, giving a good atmospheric effect.

In order to portray home studies correctly, one should have an eye trained for the artistic, and also be on the alert, ever watching human nature, for the best results are obtained only in this manner. Alway have your idea "figured" out as to composition, etc., before attempting, and try to get it RIGHT, not just as it happens to come.

Having originated your idea and your subjects procured, proceed as follows: Test the lamp first without the powder, sometimes on purpose to show the sitter what the light (?) is, if you notice that they are of a nervous disposition. Replace your lamp either on the standard or wherever you intended it to be—sometimes in the high chair placed on the table, as necessity is the mother of invention, but never near the lace curtains or where it will "smoke" the ceiling or walls of the room, and be *sure it is not lighted,* as here is where the fatalities occur. Select the desired amount of powder—it would be impossible to state an exact amount— and spread evenly on the lamp, then relight *from the rear* and let burn during later operations.

For focusing have your assistant place the light, and I always carry my own "leader" for electric light connection when calling out, near the face of the subject, moving same around so as to get a good, even focus. Place your finger on the ground glass where the light from the lamp strikes, and note how easy it is to focus, following around with the finger as he moves the light. Everything being in readiness—a window lowered to carry out the smoke—turn on all the lights possible, pull your slide and after a few seconds' "talk" to detract the subject's thoughts from your object, make the exposure, and I would say here, always have your hand containing the bulb at your back, and in a careless manner. Should you hold the bulb where the sitter can see it, you will be liable to get the "sleepy effect," or closed eyes, as natural instinct will work quicker than the lamp. Always get a little over-exposure, the plate being developed as usual. Some, of course, have their "pet" plate, but almost any fast ortho plate will do.

In the studio the flashlight can be used in various manners at this season of the year—working well when making sittings on cloudy days, or very late in the day, using part daylight and finishing with a small flash. Another feature is, that when using a diaphragm, even though small, you can get the instantaneous exposure and fully timed plate by using more powder. This style of work will be a great advertisement, especially in the smaller towns, as, although it may not be very remunerative, the people will soon

be in to see your other work, and you will be in closer touch with the public.

In conclusion, I would say that although this may appear tame to the initiated, I hope what I have illustrated will be of help to some readers, as it is the little points that make the great things, and we are all never too old to learn.

PLATINUM PRINTS IN SEPIA.

BY A. J. JARMAN.

For several years past there has been an increasing demand for sepia platinum prints, the result being that to meet the demand platinum printers have been compelled to devote their skill and energy to the production of this class of print, which differs in many respects from the platinum print in black.

One point in particular to be attended to is the correct depth of printing, because when a hot developing solution is used, the image flashes up instantly, to almost full development, the reduction of the platinum taking place rapidly. Where cold development is employed, there is much more latitude, thereby giving a reasonable time to watch the correct depth, as well as the color.

A large number of photographers often question the permanency of these prints, because of the use of mercurial salts in the preparation of the paper, or in the developing solution, or both. Respecting this point of permanency the writer has sepia platinum prints in his possession produced upon paper he made eight years ago. These prints are as good and bright to-day as they were when first made. About nine ounces of chloroplatinite of potassium were used daily for the production of this paper.

The precise action of the mercurial salt in causing a change in color of the deposited platinum does not appear to be clearly understood; general observation leads to the inference that it causes a change in the size of the deposited atoms or molecules of combined platinum in just the same way that pure silver can be deposited in an electroplating bath of the color of coffee by increasing the electromotive force considerably. Although the color of the rapidly deposited silver has changed, it is pure silver just the same. In some sepia platinum papers the salts of uranium and mercury are both used. Prints made upon such papers have proved themselves by time to be permanent. More than this, two prints were taken and placed in two printing frames, with a torn mask of black paper placed in front, the print and mask being pushed down upon a piece of clear glass, with the date written upon the back. After an exposure facing southeast for seven months, so as to get the full effects of sunlight, not the slightest change in color took place, although the black paper mask had changed to a light brown upon the exposed face. The prints were put in developer and fixed in very dilute muriatic acid. The tests that were made upon sepia prints that were fixed with a solution of oxalic acid were just as permanent. The color of sepia prints fixed in oxalic acid solution is richer in color than when muriatic acid is used.

The one great complaint about sepia platinum prints that is universal is the production of so many flat and muddy-looking pictures. This arises from two causes: First, from the paper becoming damp previous to or during printing; secondly, to the developer not containing a sufficiency of an acid restrainer. In either case the prints produced are never satisfactory. It is at all times a good plan to use thin sheets of celluloid as a backing to the platinum paper, previous to placing the felt pad. This will pre-

vent damp or moisture being absorbed by the platinum paper during the printing process, while the brilliancy of the print is aided in development by a moderate use of the solution supplied for that purpose, or by the addition of an ounce or two of a ten per cent. solution of perchloride of iron. Richness in color is also aided in a hot developer by the addition of a small quantity of granulated sugar, a teaspoonful to thirty ounces of developer. Another point to be attended to is to filter the developer each time it has been used, whether hot or cold, and thus separate any reduced platinum, and other matter that forms a scum, which so often spoils what would otherwise be an excellent print. In the writer's practice it has been found advisable to employ a fair size ebonite funnel (hard rubber), so as to allow the sepia developing solution to be filtered while still hot. Just as soon as the batch of prints have been developed, place a plug of absorbent cotton into the neck of the hard-rubber funnel, adjust this in a wide-mouthed, amber-colored glass bottle, then pour the developing solution into the funnel, after it has been allowed to stand a short time to admit a reduction of temperature; this is necessary to prevent the cracking of the bottle. When a large batch of sepia platinum prints are to be developed, it will be found necessary to make up beforehand a stock of developing solution, so that the hot developer may be replenished from time to time, the loss being caused by the carrying over of the developing solution into the first acid bath, and also by evaporation. When a stock of developing solution has been made up, take about half a pound or a pound of new *sepia platinum paper scrap,* pieces that have been cut from the roll or sheets before exposure to light, place this scrap into the stock solution, stir it well with a strip of glass. When the solution is cold, the paper may be removed, because the chemical substances contained on the surface of the paper that will aid in producing a rich sepia color have been extracted. Boiling water should be used in making up the developing solution. Place the developing salts in a two-gallon clean stoneware crock, then pour the boiling water upon them, stir well, and add the scrap paper. To secure the best results for color and uniformity, use distilled water; only too often the great variation in color in sepia platinum prints is caused by the impurities contained in the water. If the water supply is derived from the street main, through a lead pipe, then the water will often contain carbonate of lead in a dissolved state, as well as organic matter. If lime be present, this will be quickly thrown down as calcium oxalate, while, if distilled water is used, there will be nothing to throw down or cause trouble and anxiety from this source. When using a hot sepia developing solution, the strength of such solution increases through evaporation. In this case add a few ounces of distilled water only, and take care when developing commences to have a thermometer in the solution at one corner of the tray—resting in the lip answers well—so that the temperature may be easily seen at any time during development. Start in to develop at 120 deg. F.; this temperature will admit of a little time to examine the print; and if the developer has been made right, and is in good condition, the color will be found to be all that can be desired without resort to a higher temperature.

When using a hot developer or a cold one for sepia development, always employ a pair of rubber gloves, because the poisonous properties of these developers is such that the operator may become injured either by direct action upon the fingers and wrists or by absorption through the pores of the skin. It is a fact that some men can withstand long-continued practice in the use of hot developed sepia platinum paper without evincing injury, while there are others who are so easily susceptible that the mere cutting up of the paper causes the salivary glands to become quickly excited, producing a severe cough, sneez-

ing, severe excretion from the nose, in effect like a severe cold in the head produces. In either case, sooner or later the effect of salivation shows itself, the loosening of the front lower teeth takes place. When any of these are extracted, the dentist will tell you that the gums are very spongy, and that the process in which the teeth are embedded has partly or entirely disappeared. A slight ulceration of the throat and a strongly tainted breath occur with some operators, these effects being caused by mercurial poisoning. So much so is this recognized today that a special respirator has been invented and is made and sold for use by those who are easily susceptible to the deleterious qualities of platinum paper. Cases have been known, and doubtless there are instances to-day, where the effect of mercurial poisoning is visible in the gums, showing a faint bluish line near the teeth, similar to the blue line that is shown in cases of lead poisoning. It is therefore all the more advisable to use rubber gloves in all cases where the preparations of mercury are made use of in photography. In cases where poisoning occurs from the use of the oxalates, it will be known by the throbbing pain that will be felt in the part affected. In this case, if it should occur in any of the fingers or thumbs, these parts should be bathed with lime water and a poultice applied at night made of bread moistened with lime water. Relief is quickly obtained by these means. The above facts have been mentioned with a view of advising those who are engaged in the use of these particular preparations to take as much care as possible so as to prevent injury to themselves.

In the production of color in sepia prints there is a wide diversion of opinion. Some photographers are anxious to obtain sepia in every part of the picture except in the deep shadows. Such a result can be obtained by mixing five ounces of a used black platinum developer with fifteen ounces of the usual sepia developer; the resultant print possesses very much the appearance of a photomechanical print where the first impression has been made in black, and the second impression in brown ink. Sepia prints can also be made upon platinum paper that is used for making black prints, the depth of printing being about the same as is used in the cold developer. For certain subjects, just a little lighter, such a developer is made up as follows:

Distilled water	30 ounces
Potassium oxalate	4 ounces
Bichloride of mercury	200 grains
Nitrate of uranium	30 grains
Oxalic or citric acid	6 drachms
Potassium citrate	5 drachms

The water should be warm. As soon as the ingredients are dissolved, stir the mixture well with a glass strip, allow to become cold, filter the solution, to separate any sediment. The solution may be used at 120 deg. F.; the color obtained will approach a fine brown black, a color that closely resembles true sepia. The fixing or clearing solution must be a weak one and made with either oxalic or hydrochloric acid—one part of oxalic acid in one hundred of water, or half an ounce of pure hydrochloric acid in one hundred of water will be found to be the right strength. Various colors can be obtained with this developer, the change in color depending upon a change in temperature. The use of pads of blotting paper that have been soaked in a solution of bichloride of mercury, and made quite dry previous to use, will aid in producing a change of color in the developed print. Should this method be adopted, it will be advisable to keep such frames and pads exclusively for sepia platinum printing. If prints are made for black platinum in these frames, the color of such prints will be sure to be affected, the blacks will possess a brownish tinge, a color in some instances that is not objectionable.

In the fixing of sepia platinum prints the acid baths must never be made of any considerable strength, the same that is used for the fixing of black platinum prints. If the strength exceeds the proportions already given, it will be found that the color of the print will be changed

considerably; in fact, the print will become very chalky in the whites and all the delicate detail will be eaten away, presenting a hard and inartistic print. Only too often the quality of the negative is blamed, when the real fault is to be found in the employment of a fixing bath that was too strong in acid. Two clearing or fixing baths are all that is necessary for use with sepia platinum prints, five minutes in each bath being about the limit to obtain good, rich color. The ferric salts employed in the preparation of the paper become dissolved and eliminated in this time. Even long continued soaking in a weak acid solution will eat out the beautiful delicate halftones, very similar to the use of a strong acid bath.

If there should be a large number of prints to develop it will be found necessary to enlist the services of a second person to change the prints from the first acid bath to the second, allowing the prints to drain well before placing them in the second bath, so as to prevent an excess of the dissolved ferric salts passing over. When fixation is complete, the prints should be placed in a deep tray, where water is running from a rose sprinkler, the prints being placed face up, so that each print receives a full washing. Half a dozen such changes will be necessary to effectually wash the prints. If the paper is very thick, the washings should be thorough, and eight or nine changes as described will be necessary.

Should it be desired to give the prints the fullest brilliancy without in the least approaching a gloss, and make them proof against damp, or other atmospheric influences, the following inert, colorless lacquer will be found to answer the purpose well: Place in a thoroughly clean, wide-mouthed bottle two ounces of concentrated amyl acetate and three hundred grains of pyroxyline; shake the mixture well. It will be found that there is a cloudiness in the mixture, which is due to some small particles of the pyroxyline permeating the liquid. Filtering must be resorted to, so as to separate these little insoluble particles. The filtering must be done through three or four thicknesses of cheesecloth, tied over the end of a kerosene lamp chimney. This must be inverted so that the body of the chimney forms a receptacle for holding the lacquer. The filtering will proceed fairly rapid at first. This will soon slow down. The filtering must be performed twice so as to get rid of the insoluble particles. Do not use absorbent cotton, because this becomes quickly clogged, and the filtering stops. As soon as the liquid is clear, pour it into a clean porcelain or glass tray; then take the prints to be treated and place them carefully on top of each other. Be sure that the prints are quite dry before placing them into this mixture. Sometimes the prints will look semi-transparent; this effect will disappear when dry. Remove the prints one at a time, hold up diagonally so that the excess of lacquer drips into the tray; they must then be suspended away from dust and dirt until dry. Upon examination after drying, it will be observed that there is more detail in the shadows of these prints when compared with those that have not been so treated; at the same time they have become completely damp-proof. The remaining lacquer should be filtered and stood aside for future use, or mixed with some fresh for use again. The use of three hundred grains of pyroxyline is not a hard and fast rule; two hundred, or four hundred grains may be used. The more pyroxyline there is used, the stronger and more viscous the mixture becomes. A considerable quantity of pyroxyline will dissolve in amyl acetate. The proportions given will be found to be about right for the purpose. Do not use a glass stopper for this preparation, for it will be found that the stopper will become completely fixed if it is allowed to stand any length of time before use. A good cork placed in the middle of a piece of canton cotton about six inches square, with the fluffy side next the cork; then bring the four corners together with a slight twist; then tie

a piece of strong string around the middle so that the ends form a good handle to grasp. By this means the cork can be removed at any time, and replaced without fear of its becoming permanently fixed.

If the sepia prints are to be mounted upon cardboard after they have been treated with the lacquer, it will be found necessary to paste the print upon the back while in a dry condition, pasting thoroughly lengthwise and crosswise until the print ceases to cockle. A good strong paste for this class of work, one that will not turn sour or decompose, is made by placing two ounces of common starch in a large basin, moistened with cold water until it forms a stiff mass; then add thirty drops of formaldehyde, 40 per cent. solution; mix this well with the starch, and pour in boiling water from a teakettle, stirring the starch vigorously until it thickens and becomes clear. Continue the stirring for a minute or so; allow this to become cold, then squeeze it through the meshes of a piece of damp cheesecloth. This plan of preparing starch paste will be found to answer well; the starch will not decompose, it will keep almost any length of time, and because of this non-tendency to decompose, it can be relied upon at all times as an efficient mountant for all classes of photographs.

AN INVITATION TO PROFESSIONAL PHOTOGRAPHERS.

THE first important photographic event of the year will be the second annual meeting of the Professional Photographers' Society of New York in New York City, April 5th and 6th. This organization, although the youngest member of the rapidly growing circle of state associations, is taking the lead in the substantial movement toward a betterment of business conditions, and in its solid support of the several national measures for the material good of photographers.

Its list of members contains many famous names, and these men, with shoulders to the wheels, are forwarding a movement the influence of which is destined to be felt in every state in the Union before many months have passed.

The economic conditions, as they have existed in the professional photographic field for many years, present a strange contrast to like conditions in other professions. As compared with men of equal merit and standing in other professions, even those in which the members must exercise less skill and learning, the photographer is poorly paid, and his standing in business and social circles, offers an unfavorable comparison.

To discuss these conditions many prominent members of the profession have been invited to attend the meetings in April. The officers of the Photographers' Association of America, the executive board of all the state organizations and prominent members of the photographic press join in the discussion.

From the multitude of counsel this much may be expected: A brief expression of the opinion from the leading minds in photography; a nucleus for future discussion between photographers individually and in photographic bodies and a general opening of old sore-spots that have gradually been passed up and forgotten, yet whose influence affects the health of the business as the deadly cancer affects the human system.

There will be no socialistic twaddle, no revolutionary sentiments; simply a calm dispassionate discussion of causes and the whyfor; an abandonment of the long cherished professional attitude which has hitherto forbade discussion of the real conditions which confront the photographer.

In the full belief that the forthcoming meeting will inaugurate a new line of thought and that the increasing power of the Society will turn this thought into

action, we invite photographers everywere to join us. The list of associate members from other states than New York is already large, but there is room for more. By becoming a member and receiving the publication of the Society you will be kept in touch with the most progressive movements, and will place yourself beside the men who, successful themselves, are helping others to succeed.

There is a practical advantage in associate membership with our organization. We maintain a labor bureau, which in time will be the clearing house for photographic labor for the whole country. The privileges of the bureau may at any time become of great value, and there is no charge other than the three dollar membership fee.

If you can attend the annual meeting April 5th and 6th, at the Hotel Astor, New York, we will be glad to welcome you. We want the advice and counsel of all who are interested in the upbuilding of professional photography. There is no room in our ranks for the weak-kneed brethren; there are too many at large in the business today.

The dues of the Society for both active and associate members is $3,00 per year, payable to Secretary Walter E. Talbot, Schenectady, N.Y.

Respectfully,

DUDLEY HOYT,
ALVIN F. BRADLEY,
JOSEPH BYRON,
WALTER E. TALBOT,
DON C. SCOTT,

Executive Committee Professional Photographers' Society of New York.

PRACTICAL METHODS AND HELPS.

Blue Prints.—The following formula by Dr. Lux in the *Papier Zeitung* will be useful to those who coat their own paper: For a very hard, smooth-surfaced, wood pulp paper the following is recommended:

A.

Green ammonio-citrate of iron	2 ounces
Water	4 ounces

B.

Potassium ferricyanide	320 grains
Water	2 ounces

C.

Dextrine	96 grains
Water	2 ounces

D.

Potassium bichromate	1 grain
Water	10 minims

plenty of linen, the sensitizer should be: These are then mixed together in the to obtain sufficient sensitizing solution on the surface, and the bichromate makes it insoluble. For a very soft paper, with plenty of linen, then sensitizer should be:

Green ammonio-citrate	2 ounces
Water	4 ounces
Potassium ferricyanide	320 grains
Water	12 ounces

Papers prepared with these solutions will keep for a month; if ten grains of oxalic acid be added a more sensitive surface is obtained, but the papers do not keep so long in perfect condition.

Improving Bromide Prints.—It frequently happens, says Mr. Sylvester in *The Bromide Monthly,* that bromide or gaslight prints which one wants to have black turn out rusty or green. Instead of throwing them away they can be improved by toning with gold. The solution for this purpose is made of:

Ammonium sulphocyanide	30 grains
Gold chloride	2 grains
Boiling water	4 ounces

Now the proper way to make this is to dissolve the sulphocyanide in half the water and the gold in the other half, and add the gold gradually to the sulphocyanide, stirring all the time. It will be ready for use as soon as cool. The print after fixation must be well washed, and should then be squeegeed face up on a sheet of glass, and the above gold bath brushed over the surface with a broad and flat camel-hair brush till the color of the image is satisfactory; a thorough washing completes the operation.

CARBON PRINTING FOR PROFESSIONALS.

BY A PRACTICAL PRINTER.

The growing popularity of the carbon print among cultured people suggests the advantage of a working knowledge of the process and its possibilities.

I.

Of the many printing processes extant there is none, I think, which should commend itself to the photographer, be he professional or amateur, through its many virtues, more than the carbon process. In none of the newer methods of producing positves from the negative are so many excellent qualities combined, or such satisfactory results achieved, and yet many whose aim is to turn out the very highest grade of work do not use it at all, or if they do occasionally put out some few carbons, they do not finish them in their own place, but send the negative out. Why this is I cannot imagine, unless it is through ignorance of one of the oldest, simplest, most permanent and most satisfactory of all printing processes.

I have frequently heard the process called difficult, intricate, fussy, by people who openly admired the results, but who were afraid to take up with it at all for those reasons, and I am glad to say that I have very often driven all such foolish ideas out of the heads of men who now glory in working in carbon and push it before their patrons as the very highest development of the photographic art; affording very great opportunities for individual taste and manipulation that more nearly approach the ideal in portraiture than anything else. Carbon, contrary to the general impression, is a very simple process, which, when the fundamental rules are mastered, will afford less trouble and unlooked-for accidents than the albumen silver paper we used so long. It took a little time, we should recall, to make a proper silver bath, keep it in order, learn to float the paper just so and to tone and handle it properly. We did not learn all this in a day, yet any of us would now call the old way very simple, and that with justification. Still, the carbon process is not a whit harder to learn, and, once mastered, affords less opportunities to guess what is the matter when something goes wrong than albumen paper did.

We have a number of beautiful colors to choose from; the most absolute and undoubted permanence to insure the life of our prints; there is no other paper than can be said to even approach it in delicacy of rendering the gradations of our negatives; and we do not have to keep the negatives thin and flat in order to make a good carbon. If one likes a good, old-fashioned negative, or has a number of them left over from the old days when we made negatives we couldn't exactly read the paper through, to put it mildly, let him try them on carbon; and, again, if he has none but thin ones and likes them thin, let him try those on carbon. It makes good prints from any class of negatives that will print at all, and therein it possesses an extraordinarily valuable future. Personally, I like a rather plucky negative with density enough in the face to produce a painter's value in the flesh, but if I had to first use the plate for aristo prints I should not hesitate to develop for aristo printing, because I know that I can make a good carbon from such a negative as well as from one of greater density.

I think professional photographers would do well to devote a corner of their

place—a whole room if possible—to carbon working, not only for the sake of the greater profit which can be readily obtained on carbon work over any other, but for the reason that in delicacy, transparency in the lights, artistic effect and general attractiveness this process excels others and is the only medium with which can be expressed our very best work. It is certainly a product that increases the public's respect for a photographer, and even though the cost may be beyond their means, they would prefer to patronize a man who can turn out such admirable work; it stamps him as a master of his art.

Another thing about carbon is its special beauty in large work. Beside a carbon no other enlarged work has the ghost of a chance, so superior is the carbon print from an enlarged negative. True, it cannot be made sensitive enough to make enlargements upon, except in the solar camera, but even though one has to make an enlarged negative when working from the usual cabinet size, it matters not, as a fully adequate compensation is charged and the work is all of the most interesting nature.

Taken from any standpoint, carbon possesses a character entirely its own, which cannot be equaled.

If professional photographers would only take it up boldly, they would, indeed, find that I have made no error in claiming its superiority over all other printing methods, in its ease, permanence and the recognition it will receive at the hands of the public. The only reasons there seem to be against it are its difficulty and the need of special facilities. Of the difficulty I leave the reader to judge after perusing the following simple directions. As far as special facilities are concerned, no photographer will endanger his bank account to any great extent in preparing to put out carbon work. A special room ought to be set apart for carbon work, but at first, when it is being tried on a small scale, even that may be dispensed with.

One thing necessary in carbon work is scrupulous cleanliness; another point is that two things cannot well be done at once by one man. By that I mean to imply that the carbon worker needs to devote all his time and attention to his job, and not try to do a few carbons, a few aristos, develop plates and make a bromide all in the one room and on the same day. No one should try to do such a diversity of things, anyway, but whether or no he can with other prints, he cannot with carbon, which, though easy, requires the worker to keep clear of all other chemicals whilst performing each stage of this process.

(*To be continued.*)

WHAT IS A STUDIO LENS?

PHOTOGRAPHERS have been so long accustomed to the old types of photographic lenses, and it has been so long since there have been any radical improvements that it is little wonder that photographers have settled down to the conclusion that there is nothing new under the sun as far as lenses go. Progress has been made, however, in portrait lenses, and it behooves the studio artist to look into the new things that are being offered.

The Bausch & Lomb-Zeiss Portrait Unar has now been in use in studios for over two years and the fact that sales are increasing steadily should indicate that this lens is a practical advance and that it does the work which is claimed for it in the studio.

Portrait Unar combines the speed and fine portrait qualities of the highest class portrait lens, with the defining power of the high grade anastigmat. Owing to the peculiar construction it is possible to mount the systems of this lens in such a way that by means of a diffusing mechanism they can be brought close together or separated, producing, on the one hand, depth of focus and fine definition, such as is required for groups and full figures, or, on the other hand, the softness and modeling required for portraiture pure and simple. Neither of these qualities is secured at

the expense of the other. Portrait Unar by means of this diffusing system covers the whole field and is supreme in each.

The photographer who has heretofore been obliged to have an expensive rapid lens of large size for his group photographs now finds it possible to secure all the results that can be obtained with two lenses and the intermediate subjects which were covered by neither with the Portrait Unar.

The Bausch & Lomb Optical Company, Rochester, N. Y., have issued a very interesting catalog, describing this lens, which will be sent gratis on application.

FROM THE AUTHORITIES.—NEW LENSES.

During the last few years a great many new lenses have been put upon the market. The photographer is likely to be confused by the variety of instruments that he has to choose from and to be at a loss to know how to determine whether one pattern is superior to another, unless he has a definite idea as to what is most desirable for him, and which of the imperfections of lenses it is most important to reduce—we do not say eliminate, because lenses, from their very nature, must always be imperfect when regarded as a means of getting an image for the purposes of photography.

There are two desiderata in a lens that may be regarded as of prime importance, namely, that they shall have equal defining power and give an equal illumination over a flat field. The equal illumination is impossible unless some arrangement is used to reduce the light at the centre of the plate to the intensity of the illumination of its margins, but it is possible to avoid the gross form of this fault due to an insufficient diameter of the combinations. Modern lenses often suffer more from this fault than the early forms, perhaps portability and cheapness have much to do with it, but we want the combinations increased in diameter or brought nearer the diaphragm, so that a pencil of light of full diameter may be transmitted to the very corners of the plate when the second, or at most the third, if not even when the largest stop is employed.

An equal defining power over the whole plate must apparently always remain impossible, but the nearer we get to it the better. It is an improved definition of the image at the edge of the field, together with a full illumination there, that is to be expected if any improvement worth having is to be effected by the introduction of new forms of lenses.—*Chapman Jones.*

WARM TONES ON BROMIDE PAPERS BY DEVELOPMENT.

The impetus given to the already popular process of bromide paper printing during the past year or two by the introduction of a modified and simple sulphide toning bath, is a sure indication of the esteem in which warm-toned prints are held by the majority of amateur photographers. A sulphide-toned bromide or gaslight print can be regarded as being as permanent, at least, as the untoned print, and a properly prepared bromide print is, under ordinary circumstances, as permanent as can be desired for the perpetuation of most photographs.

The fact remains, however, that a toning process, no matter how simple, means an additional operation, and the sulphide bath, in common with other bromide toning baths, is limited in its range of color, being capable of giving practically only one tone, while, to produce the best results with any bath, the original print has to be either specially prepared for toning or has to be correct in the mat-

ters of exposure and development, color and density.

It is not proposed to advocate careless working of a process that will permit of compensating after-treatment to cover defects, but at the same time it cannot be overlooked that the average worker who uses bromide paper does not invariably produce a perfect print as a result of every exposure made.

An Unappreciated Quality of Bromide Paper.

Now, of all the printing processes at present known to the photographer bromide and gaslight papers can claim to possess the greatest latitude in the matter of exposure.

This advantage is accompanied by a corresponding extensive range of tones and colors which follow every variation in exposure and suitably adapted developer.

That this fact is not fully appreciated by the majority of amateur photographers is evidenced by the avidity with which they have seized upon and used the popular toning methods advocated from time to time for the production of warmer tones than are obtained with normal exposure and development.

Taking full advantage of errors of exposure to produce definite differences in color appears to have been overlooked, while the systematic production of warm tones by over-exposure and prolonged development appears to have been deliberately considered in only a very few instances.

In view of its greater rapidity, bromide paper claims greater attention for the production of direct enlargement than gaslight paper, although there seems no doubt that the latter under normal conditions will give finer and richer black tones, with the added consideration that a dark-room is unnecessary for its manipulation.

Correct Exposure and Development.

It is, however, with the production of warm tones on bromide papers that we are concerned at the moment, and the photographer who makes an extensive use of the process will not be long in discovering that, if not desirous of always retaining the characteristic color of a correctly exposed and developed print, he has a process that presents such flexibility that failures from over-exposure should never occur.

It is already well known to every bromide worker that over-exposure yields prints altogether different in character to those that have received correct exposure.

We assume here that correct exposure is the exposure that is generally accepted for the production of black tones with a certain development. The idea that a greater exposure that will always give any other color with a certain development cannot be regarded as equally correct, must be put down to the conventionalism of nearly a generation of bromide-paper users.

For black tones a certain exposure and development are necessary, no matter what the developer may be. Pyro, under certain conditions, will give as black an image on bromide paper as ferrous oxalate. If any developer used to produce black tones is applied to a print that has received more than the normal exposure, a flat, dirty-colored image is produced. If a restraining agent, such as bromide of potassium, is added to the developer, the gradations of the image will be produced so that contrast is restored, but the color will be different, and probably disagreeable. Investigations have shown that a pleasing range of tones can be obtained by careful observance of the relative proportions of exposure, amount of restrainer used and the dilution of the developer. In addition to this certain developers have been found to more readily give warm colors, and certain brands of paper appear more amenable to the treatment than others.

Pyro for Warm Tones.

Pyro, used either in a simple pyro-soda formula or in conjunction with some other reducing agent, preferably metol,

stands easily first as a developer for warm tones on bromide papers.

Adurol and edinol will also be found to yield warm tones with considerable ease, but in all cases the main factors that govern the result are the exposure and the relative dilution of the developer.

The following pyro-soda developer will produce a fair range of tones from black to bronze brown:

A.

Pyrogallic acid	½	oz.
Sulphite of soda	3	oz.
Citric acid	1	dram
Ammonium bromide	1	dram
Water	10	oz.

B.

Carbonate of soda (cryst)	½	oz.
Sulphite of soda	1	oz.
Potassium bromide	1	dram
Water	10	oz.

With twice the exposure that has been ascertained to be correct for the production of black tones with the normal developer employed, this formula will give rich warm black tones. For use take 30 minims of A and 80 minims of B, and add four ounces of water. Double the exposure, double the quantity of water, add 20 minims of a ten per cent. solution of potassium bromide and the color produced will be very much warmer. Further increase of exposure will tend to produce still warmer tones, but it must be borne in mind that the developer must be proportionately diluted and more bromide added.

A Pyro-Metol Developer.

Later experiments with pyro as a developing agent for the production of warm tones on bromide papers have shown us that a greater range of tones can be produced with far less chance of staining the paper, if metol or hydroquinone forms one of the constituents of the developer. In any case, it will be observed that an apparently abnormal quantity of sulphite of soda is present in the formula. This has been found necessary with any developer for prints in which pyrogallic acid forms a part, to counteract its staining propensities. This additional quantity of sulphite does not appear to be required when edinol or adurol, or, in fact, any other developer than pyro is employed.

The following modification of a formula we have employed for a considerable time in the production of warm-toned bromides will be found to give a variety of tones. It will soon be discovered, however, that different makers' papers give an entirely different range of tones with exactly the same treatment, and a tone that is easy to obtain and repeat on one brand of paper is difficult to reproduce with the same developer and exposure on another.

With the formula given below, however, it will be found that tones ranging from warm black through olive-sepia, cool-brown, golden-brown, pinky-brown, to a red tone similar to that obtained by copper toning, can be obtained.

The following is the formula:

A.

Pyrogallic acid	30	grains
Metol	30	grains
Sulphite of soda	1	oz.
Bromide of potassium	30	grains
Water	20	oz.

B.

Carbonate of soda	3	oz.
Sulphite of soda	½	oz.
Water	20	oz.

For use take equal parts of each. With a normal exposure a pleasing warm black tone will be obtained. If development is completed too soon the tones will suffer. The longer the development takes the richer the color will be, and the better the rendering of the shadow details. The developer should, therefore, be diluted considerably if the negative shows any indication of flatness. With a plucky negative this precaution will not be so necessary.

Modifications for Warmer Tones.

Here, again, as with the pyro-soda formula given above, the resultant colors depend, to a great extent, upon the amount of the exposure and the quantity of the restrainer and water added. A ten per cent. solution of bromide of potassium should be kept for the purpose, and the following exposures will

approximately indicate the colors obtained.

As an example, we will take a negative of normal density and contrast that requires, say, ten seconds' exposure for black tones with amidol or metol-hydroquinone developer. With fifteen seconds' exposure and the above formula, using 1 oz. of A, 1 oz. of B, and 2 oz. of water, a warm black tone will be obtained. With twenty seconds' exposure, 4 oz. of water added to the developer, and 10 minims of bromide solution, the color will take on an olive tint. With thirty seconds' exposure, 16 oz. of water, and 30 minims of bromide, a bronze-sepia will be given; while with sixty seconds' exposure (six times the normal), and the developer diluted with 80 oz. of water and 60 minims of bromide added, a pleasing red color will be obtained.

The production of these tones upon different brands of bromide paper opens up a wide field for experiment, but the foregoing can be taken as a guide. The ease with which warm tones can be obtained in the one process of development will, doubtless, convert many to the practice who at present rely upon various toning methods for the purpose of obtaining the same results.—*Photographic News.*

HARDENING THE FILM.—INTERIOR EXPOSURES.

Hardening the Film—M. Mercier, a well-known French chemist, suggests the following bath for hardening plates and films:

Tannin	60 grains
Alcohol	½ oz.
Water	1 oz.

Immerse the plate or film in this for two or three minutes, and then wash and develop. After fixation it must be well washed till all trace of tannin is removed. The use of tannin was suggested about fifteen years ago, by Stolze, for hardening gelatino-chloride prints. There is one very grave objection to its use, and that is, no matter how long you wash, it seems impossible to remove the whole of the tannin and the gelatine browns on exposure to light.

Interior Exposures—Every architectural worker at times meets with an interior which is so dark that it requires an inordinately long exposure, with the small stop that is necessary to obtain satisfactory definition. An old dodge, which has recently been revived on the Continent, is to give, say, one-fifth of the necessary exposure with the small stop, then open out the aperture to the next size larger, and give an exposure corresponding to one-half, and finally open the stop out to the largest aperture, and complete the exposure with this. It is claimed that the small stop will give the detail or drawing, whilst the larger stops will give the necessary density. This plan may also be used in copying oil paintings with colored screens.

UNCONVENTIONAL PORTRAITURE.

One of the most hopeful signs of present-day photography is its great emancipation from absolute hide-bound traditions. Everyone knows the old joke of the sixties about a vase, a curtain, a table, and a pedestal as the inevitable and universal accessories. In those days the favorite pose for a man was a standing one, the legs crossed, and one elbow resting on the aforesaid pedestal. The victim was often provided with a "high hat," much more chimney-pot in shape than the present fashion, and this rested either on his head or in an inverted position on the pedestal. Ladies usually sat in a chair, the chair hid-

den by a mass of widespread skirts, and they either gazed placidly at the camera, or turned over the leaves of an album. As for the children, poor little mortals, they either stood on the chair clinging to its back or leaned against it. We are apt to laugh at the old portraiture, but really we have advanced but slowly, and there are many men still in business who have got very little further than their predecessors of forty years ago, and in the actual matter of technique their work is worse. The fact is we have had too little individuality in photography; it has been too much of a trade and too little of an art. Photography really comes among the arts rather than among the trades, and no man can be successful at it unless he has that first essential to all artistic work, an enthusiasm in his profession. It has often been said that the influx of the amateur has benefited the profession artistically; people are apt to deal in superlatives, and people who say this exaggerate. There is no doubt that an amateur influence has been felt, as all influences must be felt, for good or for ill, but the great advance has been made by a conservative progression among photographers themselves. It is the men who get away from the conventional work, and at the same time keep to good photography and do their best on the art side, who leaven the whole mass of the profession, and more individual workers should be welcomed for the general good they do. Even the man who perpetrates the most outré of impressionism is useful in stirring good photographers to exercise their ideas. Nothing is more essential to professional work than a well-appointed and well-lighted studio, and yet the usual skylight, though a necessary, is not an unmitigated blessing. A man knows what results will be obtained by altering certain blinds, or placing certain reflectors, and he works in a groove with these "tools of trade," and would be lost if he were without them. The result has been that he has divided the sitters more or less into classes; one will make a good profile, another a good full length, a third a Rembrandt, and in striving after these classes he has omitted the essential of character; instead of adapting his means to the sitter's individuality, he has moulded the sitter to his stereotyped means of expression. It is not that the possibilities of studio work are limited to these methods, but that the results being easily obtained photographers have drifted into them. The late Adam Salomon who was an old-fashioned worker, but thoroughly sound and progressive, used to keep his work up to par by practicing different lightings and poses for a fixed time every day; if anyone could be said to know the limit of possibilities it would be a veteran worker like Salomon, but he frankly felt that practice and study were necessary.

We were lately looking at some very effective work by a provincial photographer whom we had known as a successful photographer of children. On visiting his reception room we found that child pictures were not more in evidence than in any other well-appointed room, but we saw some very pretty and effective outdoor pictures, mostly of ladies. There was no incongruity about them; there was not a single outdoor lady in evening dress, and most of them were in walking costumes. He had had the idea of taking some of his sitters in his rather pleasant little garden, and commenced by asking suitable persons, after they had sat for the usual studio exposures, if they would allow him to try one or two negatives in the garden. The results were very successful. The top light was cut off by a shady tree, or in sunny weather sometimes by a parasol carried by a lady. He found that his sitters usually chose from among their proofs some of the outdoor work; they were just as pleased as ever with the retouched head and shoulders, with the delicate studio lighting, but they also liked the outdoor work, much of which did not even require the touch of a spotting brush, and the result was increased business for the photographer. Some successful amateur photographers, and by the word "successful" we mean men who have done sane commendable work, cornered by the fact that they have no top light studio, have developed methods of working in ordinary rooms. The old theory is that a studio window is necessary in order to get a sufficiency of light; the amateur usually begins by cutting off a large portion of his light, and using a concentrated light from one window only, and by this means he has obtained pictures which cannot be called better perhaps, but which are different from the usual studio work. Being divorced from the possibility of giving conventional sittings, he has turned his attempts towards portraying the characters of his sitters and with conspicuous success.—*British Journal of Photography.*

ILLINOIS PHOTOGRAPHERS' ASSOCIATION.

THE Executive Board of the Illinois Photographers' Association met in executive session at Springfield, Feb. 19th, President Victor George in the chair. There were present, Victor George, president; Saml. W. Stout, first vice-

president; J. K. Smiley, secretary; R. H. Mann, treasurer.

The reports of secretary and treasurer, with the accounts of the secretary and treasurer, were received and approved. By unanimous vote it was decided to hold the convention in the State Arsenal at Springfield, on May 22nd, 23rd and 24th.

The following awards were decided upon: Grand Portrait Prize, open to the world, six portraits, 13 inches or larger. Award, silver loving cup; entry fee, three dollars.

Class A, open to all Illinois photographers; six portraits, nine inches or larger. First award, gold badge; second award, silver medallion.

Class B, open to Illinois cities of fifteen thousand or less; twelve portraits, cabinets or larger. First award, gold badge; second award, silver medallion.

Class C, open to Illinois cities of five thousand or less. Twelve portraits, cabinet size. First award, gold badge; second award, silver medallion.

Cabinet Class, open to all Illinois photographers. Twelve cabinet portraits. First prize, gold badge; second prize, silver medallion.

Miniature Class, open to all Illinois photographers. Twelve portraits, three inches or under. First prize, gold badge; second prize, silver medallion.

Special Class, open to all Illinois photographers. Twelve baby portraits, cabinet size. Prize selected.

Smith Trophy Class, open to all Illinois photographers. Six portraits, nine inches or larger, as per the usual conditions submitted by the donor.

No awards will be given where the rating is below 70 per cent.

The rating will be given as follows: Lighting, 25; chemical effect, 25; posing, 25; general effect, 25.

The officers will not enter into competition. It is preferred that exhibits be framed, but no glass must be used.

Any Illinois photographer of good moral and professional standing, either employed or proprietor, who will agree to abide by the conditions and to use his best efforts for the advancement of the profession and this Association, is eligible to membership in this Association

J. K. Smiley,
Secretary.

Kewanee, Ill.

THE BUSINESS HABIT.

Commercial men have been known to remark that the photographer is, as a rule, deficient in the business end of his profession. Artists and scientists, of whatever grade or branch, are too often unfitted by their training and nature to meet the practical issues encountered in everyday business. How rarely do we see the artist blending with his pictorial skill the turn of mind needful to secure the best results from his talents! There is a lack of method in his work which, when put to a commercial test, discloses a want of appreciation of the first principles of business. This statement cannot be denied by the keen observer, and, therefore, must not be taken as a reproach by photographers more than any other class. As a body they must of necessity know something of art and science, if only in a small way, and naturally the omission of the third quality needful for success is not to be surprised at. But business acumen is the keystone of the arch.

The photographer is time and again urged to concentrate more of his time and thought on the art side of his work. Good advice to follow, but would he not be better repaid by a more diligent application to the business end of his profession? He must master thoroughly the questions of lighting, posing, developing, etc., until these become second na-

ture. Lofty ideals do no harm, but the chief end of business is not in the knowing how to do the best work but how to turn good work to the best advantage.

Two illustrations: We all know the photographer who can pose well when he likes and make a good negative, but who is unreliable. His studio has an untidy appearance, his dark room is even worse. Poor business with a limited and uncertain income is the result. His competitor in the same city is of the other sort; he runs a neatly appointed and well kept studio, his proofs are delivered when promised, his sitters get the impression that they are doing their own posing and can do it more naturally than he can, while all the time he is posing them to the best of his ability. He is content to think that the plate manufacturers know the best developer for his own brand of plates. He is courteous and observant, and concentrates his attention on the essentials, leaving the higher ideals somewhat severely alone. Good business with its rewards follow.

While the photographer should strive for artistic and scientific skill in his profession he should not forget that management and salesmanship are the first essentials for success in business. If he can, without losing sight of these two points, cultivate his ideals the greater will be his reward. But the fact remains that fair work, well placed before the public, is bound to produce better business results than good work poorly introduced. The prime essentials for business success are business methods and businesslike management.

THE IMPORTANCE OF BREADTH.

BY JOHN A. TENNANT.

AMONGST the many lessons which make up the art side of photography the one of most interest to the photographer of to-day is that which treats of the pictorial quality in a portrait, which is denominated by the word "breadth."

Hitherto the weak point in the photograph, when considered as an artistic production, has been the inordinate amount of detail rendered by the lens. For some years, indeed, photographers sought especially for detail in their work, and a lens was esteemed according to its power of producing sharp detail in all the different planes in a composition. Gradually, however, as the teachings of art are being more appreciated, the desire is becoming more prevalent amongst photographers to suppress detail, and to introduce into their work that broad treatment of light and shade, of tones and half-tones, which constitute what is understood by the term "breadth."

"Breadth," Prout says, is a technical term of art frequently employed so indiscriminately, and applied to ideas of such different natures, as to render difficult any attempt to limit its meaning within the strict and narrow boundaries of satisfactory definition. The "common acceptance of the term is *an extension of light, dark, and half-light;* the quantity expressing different degrees of the character of effect required." From this it clearly follows that the artist who wishes to characterize his work by "breadth" must have an intimate knowledge of the functions of light and shade. This is by no means so difficult as is generally supposed, all that is required being a good guide, examples of the work of *masters* of light and shade (both of which can be found in Burnet's Art Essays), and as much careful practice, based upon the systematic study alluded to, as is possible.

The works of Rembrandt should especially receive the attention of the student; Prout calls him "the master-magician of light and shade;" all his works show his intense appreciation of the

values of light and shade, to which knowledge his fame is due.

It should be a matter of care, however, that in seeking to know the value of breadth the student should not fall into the silly vagaries of the "naturalistic" theory. This may be avoided by the simple observation, that of the eye, resting upon a composition, neither sees a mosaic of sharply defined individual features nor a collection of blurred forms, but masses and forms defined and subordinated in such a way as to present a pleasing and pictorial effect.

The portraitist should therefore make it his chief aim, in his work, to convey general impressions expressing the most characteristic and pleasing features of his subject, rather than to produce an exact and map-like copy. To do this it is, of course, essential that he should know, not only what *are* and what *are not* the things of importance to be expressed in the picture sought, but also how to dispose of the light and shade in his power, so as to make this predominant and that subordinate, and so gain the desired effect.

A small quantity of pure white light should generally be introduced in every portrait, so placed as to lead the eye of the spectator to the chief point of interest.

With regard to shadows and their disposition, the chief thing to be remembered is that darkness does not necessarily mean depth. The main effort, therefore, in lighting a portrait, should be directed to the distribution of light and shadow so as to give broad effects having an apparent point of interest to which all other features are subordinated.

FREE SITTINGS.

BY J. A. RANDALL.

LESS than twenty years ago the free sitting was unknown, and the suggestion of one would have been met with disapproval by every professional photgrapher. The idea of giving something of value in return for a possible order being considered against all sound business principles, the professional urging with some truth that "What is worth having is also worth paying for." The free sitting is contrary to the ideas of business which were instilled into my own youthful mind, and I am old-fashioned enough to view this modern departure with some repugnance. In business, however, we must look facts in the face. Whatever our desires, or sentiments, the fact remains that the free sitting has become an established custom in the modern photographic business.

Within the last few years the photographic portrait has passed through a process of rapid evolution. In the old days it was taken to meet a private demand. Once handed to the sitter, it did not go beyond the family album, the locket, the mantelpiece, or the private photograph case. This is now changed, the portrait in many instances being required with an aim to publicity. Every kind of photographic work has now a potential public interest which takes away its former character; the private portrait is thus, to a large extent, a thing of the past, it having emerged from privacy to publicity. This change in the character of photography necessitates a different system of business management to deal with the new conditions, and the photographer who ignores this connection between photography and publicity, chancing to rely on the family album, must be content with a decreasing share of business.

Admitting this change in the commercial aspect of photography, it does not follow that all sittings should be free, and speculative; but rather compels us

to define how far, and under what circumstances, it is legitimate, and profitable, to adopt the principle of free sittings and presentation copies. The system when once started must be continued, hence with all publication work in which the free sitting is general it is now a necessity. In practice, however, the free sitting is not so bad as it looks in principle. After careful observation, I am convinced that 95 per cent. of presentation copies eventually result in orders of some kind. In portraiture, especially, the person who comes by invitation generally wants some copies in addition to the one or two gifts, and if pleased with them will certainly order. Failing an immediate order, it remains to wait, sometimes years, before the sitting can be utilized for publication. Portraiture with a view to publication should be the final object of the free sitting, every effort being made to secure sittings from persons who are celebrities, or at all likely to come under public notice. In every district such persons are far more numerous than is generally supposed, the local man often becoming of national interest. Negatives of royalty and titled persons are of course, always a valuable asset, but the majority of photographers do not recognize that those of obscure individuals often become equally valuable. The local clergyman, the military or naval man, the politicians, the artist, the amateur actress, the musician, the footballer, the cricketer, or even the policeman, may at a bound leap from obscurity to the full glare of publicity. When such an event does occur, the photographer who has a negative ready to hand will be able to supply immediately the demand for portraits that will be created. To take full advantage of this demand by the press it is necessary to adopt measures for the ready identification of the notorious individual. This can be readily accomplished by keeping a somewhat fuller register of sitters than is usually the case. For example. the name and initials of all sitters should be noted, and also any rank, if in the services, and degrees if in civil life. The photographer must also keep himself well informed by means of local and New York papers of all promotions in the services and other events by which his sitters may distinguish themselves or become of interest to the general public. More than one brain, and one pair of eyes, are wanted to do this at all thoroughly, and I know of one firm who press all its assistants into this service. The operator, printer, receptionist, or the porter, may in reading, or conversation, recall a name which is on the books, and is expected to bring it to the employer's notice. By these means a sitter is often identified with passing events who might be overlooked.

Speculative outdoor work for publication is the logical expansion of portraiture for publication. In this department the photographer should make it his business to obtain a complete series of the permanent features of interest in the locality fit for the purposes of newspaper and book illustration. For this something more is wanted than the ordinary local view. Whatever the subject, whether a cathedral, a natural curiosity, a ruined castle, an ancient ship, it should be so photographed that it is of value to the expert as well as pleasing to the general public. Next to the features of the neighborhood come those meetings and functions which occur only at intervals. Amongst these I would include the laying of foundation stones, opening parks, the launching of ships, athletic meetings, processions, quaint customs, and Old World survivals of which every town can boast a few of its own. For such events the postcard, if rapidly supplied, will command a ready sale, and oftentimes a series may be supplied to the local and New York papers. These events are usually neglected by the local photographer because there is no demand; but here is a case in which the supply must invariably create the demand. The same is true of all group work. The professional who waits for groups to fall into his hands will wait in vain.—*Dealer.*

WINTER EXPOSURES AND METHODS OF DEALING WITH THEM.

BY T. THORNE BAKER, F.C.S.

THE dry plate is often blamed in winter for its lack of speed, and much of the exposure it has received is thrown away by injudicious development. Development is often injudicious owing to the conservative desire to use nothing but standard formulæ and accustomed methods. Though fully appreciating the system of time development, and, indeed, using it almost exclusively in certain work, we cannot but think that for the plates which are to-day more rapid than ever, and for the exposures which are given without regard to the poor quality of winter light, some special methods are desirable, and more than desirable—essential.

Before considering a modified developer, which is most strongly to be recommended for plates exposed in a feeble light, we would draw attention to the great importance which attaches to temperature. It is as important to keep the temperature up in winter as it is to keep it low in the summer months. A thermometer is a most useful thing to have in the dark-room, and, once obtained, should be used always to test the temperature of the developer, which should be something between 55°F. and 65°F. The developer can easily be warmed by placing a glass measure containing it in a large jar or bowl of hot water, until it has risen to the required degree; the dish in which development is to be given should similarly be warmed, either by pouring some hot water in it, or standing it in a larger dish containing hot water.

The readiest means of obtaining the full value of a brief or dull day exposure is to use a suitable developer, and we shall now proceed to discuss two or three which have proved trustworthy in actual practice.

First, however, let us see what class of negative is to be desired, and what is the tendency of a briefly exposed plate to become. The most useful class of negative, considering the average requirements of present-day printing processes, is one in which the shadows, or least exposed portions, are filled as richly as possible with detail, and are not "bare glass"; the high lights or most exposed portions should never be too opaque, *i. e.,* light should always be able to penetrate them; and, finally, the gradation should be of such character that harsh contrasts are avoided. Now an under-exposed plate tends to produce a negative the character of which is precisely opposite in these points; we therefore require to treat a plate which has been briefly exposed in a poor light in such a way as will counteract the faulty tendencies, and this is most readily done by employing a modified form of developer.

It is hardly necessary to remind our readers that the character of a negative is chiefly influenced in development by the proportion of reducing agent to alkali—more pyro, less soda, for example, gives greater vigor and greater contrast, whilst less pyro, more soda, produces softness and detail with diminished vigor and so on.

But in considering the formula of a developer suitable for dull weather work we must take into account every constituent, and its effect. Agreeing, then, that less reducing agent and more alkali is wanted, we next take the remaining components of the developer, viz., the preservative and the restrainer. Experiment will show that the bisulphites and metabisulphites have great restraining or retarding properties, and we should therefore use as little of these

chemicals as possible. Sodium sulphite will answer our purpose admirably as a rule, but in certain cases, where an excess of alkali (or accelerator) is employed, a small proportion will be found necessary.

The following pyro-soda developer will be found to give you the very utmost for a brief exposure:

A.

Pyrogallol	100 gr.
Pot. metabisulphite	20 gr.
Water	20 oz.

B.

Sodium sulphite	500 gr.
Sodium carbonate	1,500 gr.
Water	20 oz.

Equal parts of these two solutions are used, but if the character of the negative produced be too soft or at all veiled, use three parts of A to two of B, and a drop of ten per cent. potassium bromide solution to the ounce of mixed developer.

Another extremely rapid developer, which give the maximum effect of an exposure, may be prepared with metol. Here again we shall use no bromide, unless without it the plates show a tendency to fog. Bromide should not be necessary with a good, clean-working plate, and the less bromide used the less will the effect of exposure be weakened.

The metol formula is as follows:

Metol	60 gr.
Sodium sulphite	360 gr.
Sodium carbonate	300 gr.
Water (distilled)	10 oz.

Development should be complete in four minutes, at a normal temperature.

With these two developers we should be in a position to successfully deal with plates exposed under trying conditions, but no matter what developer be selected, it should be prepared without bromide if the plates will stand it, and used at a temperature similar to that of a spring or autumn day. The extreme rapidity plates possessing a certain amount of orange and red sensitiveness, the dish in which development is carried on should be covered as much as possible, at any rate for the first few minutes, and the plates protected from the dark-room light.

We have, in conclusion, to consider what is the best course to adopt when it is obvious that a plate is very much over or under exposed. If, for example, four minutes' treatment with the metol developer above described brings forth nothing but dense, heavy high lights, with a lack of detail throughout, what is best to be done?

There are two cases deserving of attention; the first occurs when the negative is an important one, and every effort must be made to save it; the second when it is not of great importance, and forcing, etc., may be resorted to.

In all cases of obvious over-exposure we strongly recommend continuing development until *all* detail is out, and then fixing the plate and subsequently intensifying it, slightly reducing it afterwards, is necessary. When a plate is badly under-exposed, on the other hand, it is a good plan to add a little more accelerator to the developing solution, and to dilute it with an equal volume of water; this treatment hastens development, and prevents harshness to some extent. A five per cent. solution of sodium carbonate may be used as an accelerator for the metol developer, whilst the B solution, of course, answers the purpose with the pyro-soda formula. Both developers are of so active a character that not much "forcing" is permissible.

A suitable intensifier must be chosen for the under-exposed negatives, mercury and other agents which increase contrasts being clearly useless. The most practical method of intensifying such a negative is to immerse it for a minute or ninety seconds in a solution of

Potassium chromate	30 gr.
Hydrochloric acid	10 drops
Water	5 oz.

and to then redevelop, after a short rinse in water, with metol-hydroquinone.

Mercuric bleaching, followed by a reblackening solution of ordinary hypo (20 per cent.), is as good as anything for use with flat, over-exposed negatives.—*Amateur Photographer.*

TRADE NOTES.

THE new folder, issued by the Kalamazoo Shutter Co., of Kalamazoo, Mich., contains much interesting information concerning the well-known LOW Shutters. We learn that over 35,000 of these shutters have been made and sold; convincing evidence of its popularity with the profession. The LOW Shutter is constructed on a balance principle and is claimed to be as "quick as thought." More than this could not be desired. Ask your dealer for a folder.

ENLARGEMENT FROM FILMS. An enlargement from a small negative made with a good lens is an easy possibility. It is not necessary to have a large and expensive outfit to procure large pictures. The experienced worker knew how to make enlargements, but found the old methods took up too much of his time and meant too costly an outlay. As a matter of fact, many of the prize winning prints in the recent competitions were made from enlarged negatives or were bromide enlargements from small kodak films. The Kodak Company seem to have solved almost all the photographic problems, so that when it comes to making enlargements their Kodak Enlarging Camera answer all requirements. It takes up no more space than a view camera of the same capacity, the enlarging is done by daylight and a dark room is only necessary for loading the holder and for developing.

The Kodak Company made the enlarging camera serve a double purpose. By taking out the front end of the bellows and negative holder and the addition of an extra lens the enlarging camera is transformed into a good portrait camera, and the complete outfit can be purchased at a very reasonable figure.

THE KODAKER IN NEWSPAPER WORK. The growing demand for photographs in illustrating magazine and newspaper articles has led many photographers to pay some attention to this class of work. The professional in his spare time can often find pictures of unusual interest for local publications if he will go about with his eyes open. Pictures and incidents of newspaper value are generally found in the busy city streets and call for prompt action and a handy camera. Not only must the camera be speedy in manipulation, it should be small and inconspicuous and attract as little attention as possible. The new 3-B Quick Focus Kodak seems to be exceptionally well equipped for this purpose. It is adjusted for pictures at any distance by two almost simultaneous movements, the picture is taken and you are ready for another in half the time it would take to have any other camera ready for the first snap. The 3-B Quick Focus Camera makes pictures 3¼x5½ inches—large enough to get good enlargements from and the price is low enough to enable you to make an addition to your outdoor battery for a very small consideration.

A FLASH-LIGHT SUGGESTION. Nothing is more annoying than to have to miss a good night picture through the want of a flash-lamp. Here is a pointer from a prominent worker: "You will always find stowed away in the bottom of my camera case a package or two of Eastman's Flash-Sheets, they take up practically no room and a number of times have afforded me the opportuunity of making a good picture which I could not have made without them as my regular lamp was out of the way." The Flash-sheets are more than a makeshift. For many subjects they offer a better light than any lamp or cartridge, owing to the soft and even illumination afforded by their slow burning qualities. Apart from the even illumination the prolonged flash does not startle the sitter, securing a naturalness of expression often missing when the quick flash is used.

WE recently visited the studio of W. C. Hafner and were much pleased with what we saw. His portraits and miniatures on ivory being especially noticeable for their beautiful quaulities and finish. We could not wish to see better work. A list of Mr. Hafner's customers would read like a column of the photographic "four hundred." Photographers who want the highest grade colored work finished on paper, porcelain or ivory would do well to write Mr. Hafner, at 53 West 28th Street, New York.

SOME remarkable photographic enlargements have been issued by the makers of the Cooke anastigmats, to illustrate the work of these lenses. One of them shows a small boy leaping a rope, his clear cut shadow appearing several feet below him, the boy being high in mid-air. On one corner is a small print from the original negative, the enlargement being seven or eight times larger. The other photograph is a big one enlarged from a 6½x8½ negative and shows a crowd of many hundred persons watching one of the numerous fires in New York City. Both pictures are well worth examination as showing the possibilities of a high grade lens like the Cooke anastigmat. They are now to be seen displayed in many of the larger supply houses throughout the country.

LIST OF AWARDS: KODAK COMPETITIONS, 1905.

We have received from the Eastman Kodak Co. a detailed list of the prize winners in their 1905 International Competition. The judges were Messrs. Chas. I. Berg, Henry Troth and A. Radclyffe Dugmore. Their task was by no means a light one, but they nevertheless, carried it out with conscientious thoroughness.

We note that quite a number of the awards went to foreign competitors; also that the American awards were distributed over a wide area of this country.

The list of prize winners follows. At a later date the Eastman Kodak Co. will publish a portfolio, in which a number of the best pictures will be reproduced.

List of Awards.

Class A. Open, 3¼x4¼ or larger: 1st Prize, $150—E. Steichen, New York.

2nd Prize, $100—Mrs. Nancy Ford Cones, Covington, Ky.

3d Prize, $50—Alfred Stieglitz, New York.

4th Prize, $25—John Dolman, Philadelphia, Pa.

$10 Each and Honorable Mention—Mrs. Myra A. Wiggins, Salem, Oregon; Miss Nellie Coutant, Crawfordsville, Ind.; Annie W. Brigman, Oakland, California; Miss E. A. Whieldon, Eccleshall, Leamington, England; Helen P. Gatch, Salem, Oregon; F. H. Kelly, Haverstock Hill, London N. W., England; G. A. Lee, Baltimore, Md.; Sidney C. Durst, Cincinnati, O.; Wm. S. Rice, Stockton, Calif.; Daniel Dunlop, Motherwell, Scotland.

Class B. Open. 3½x3½ or smaller: 1st Prize, $100 gold—M. E. Brockbank, Southport, England.

2d Prize, $50 gold—James M. Browning, Dunardrie, Bridge of Weir, Scotland.

3d Prize, $25 gold—Mrs. G. A. Barton, Hartopp Rd., Birmingham, England.

$10 Each and Honorable Mention—H. H. Burns, 33 Claremont Terrace, Edinburgh, Scotland; E. B. Vignoles, London, W. C., England; Jenet Hamilton, London W., England; John S. Neary, Trenton, N. J.; Myra A. Wiggins, Salem, Oregon. And five awards of Honorable Mention and $5.00 each.

Class C. Open. Enlargements:

1st Prize, $150 gold—Dr. Alfred Miller, Hatton Asylum, Warwick, Eng.

2nd Prize, $100 gold—E. Steichen, New York.

3rd Prize, $50 gold—Laura Adams Armer, Berkeley, Calif.

$20 Each and Honorable Mention—Alfred Stieglitz, New York; Annie W. Brigman, Oakland, Calif.; Harold Baker, Birmingham, England; Walden Shaw, Chicago, Ills.; H. B. Conyers, Urbana, Ohio.

Class D. Novice. 3¼x4¼ or larger.

1st Prize, $100 gold—Harriet Lynam, Concord, N. H.

2nd Prize, $60 gold—W. A. Wilson, Idaho City, Idaho.

3d Prize, $50 gold—Elizabeth M. Rice, Stockton, Cal.

$10 Each and Honorable Mention—R. Mathee, A'Soindres, Paris, France; T. W. Allen, Paris, Ky.; Dr. Albert R. Benedict, Montclair, N. J.; Benj. W. Guppy, Woodfords, Me.; Francis A. Tinker, Sheffield, England. And five awards of Honorable Mention and $5.00.

Class E. Novice: 3½x½ or smaller.

1st Prize, $75 gold—S. Virginia Atwell, Worcester, Mass.

2d Prize, $40 gold—Johannes Noack, Friedenau, Berlin, Germany.

3d Prize, $25 gold—Arch. McVicar, Greenock, Scotland.

4th Prize, No. 4 Cartridge Kodak—Miss E. Barratt, The Poplars, Klevedon, Essex, England.

5th Prize, No. 3A Folding—Dr. F. W. Robertson, Wimbledon, London, S. W., England.

And eight awards of Honorable Mention and a No. 5 Folding Pocket Kodak.

Class F. Novice: Brownie Pictures. 1st Prize, No. 5 Cartridge—Mrs. Ada C. Morgan, Denver, Colo.

2nd Prize, No. 4 Cartridge—Miss G. M. Cooper, Preston, England.

3d Prize, No. 3A F. P. K.—M. J. Walker, Monroe City, Mo.

4th Prize, No. 3 F. P. K.—Jeanette Hedges Todd, Tarrytown, N. Y.

5th Prize, No. 2 F. P. K.—Miss Dorothea Seton, Edinburgh, Scotland. And fourteen awards of Honorable Mention and Folding Pocket Kodaks.

Special Velox Class: Best Prints on Velox Paper. 1st Prize, $100—E. Steichen, New York.

2nd Prize, $60—John Dolman, No. 1328 Chestnut St., Philadelphia, Pa.

3d Prize, $40—Nellie Coutant, Crawfordsville, Ind.

EDITOR'S TABLE.

Owing to the big strike in the printing trade, we have been unable to maintain our schedule and get the magazine out on time. We hope, however, that conditions will improve and that the April number will make its appearance with the usual promptness.

Taylor, Taylor, & Hobson, Ltd., ask us to announce that they have removed from the sixth to the top floor of the St. James Building., New York. They now occupy the entire floor recently used by the New York Lens Co. and the St. James Photograph Co., and have thus largely increased their facilities for dealing with their rapidly increasing business. This is the second time within two years that Taylor, Taylor & Hobson have had to increase their facilities—a proof of the growing popularity of the Cooke Lens.

The Nebraska Photographers' Association holds its seventeenth annual convention at Omaha, Nebraska, May 16, 17 and 17. Special attention is drawn to the Grand Portrait Class—open to the world. Three portraits; no restrictions as to size, framed separately or collectively and without glass. No entry fee in this class. The offering is a gold medal. Entries must reach The Robert Dempster Co., Omaha, not later than May 14. Further information can be obtained from the Second Vice-President, C. E. Day, Hebron, Nebraska. The time is getting short and we hope that many of our readers will get busy and send in some of their best work.

The Photo-Secession is holding in its rooms at 291 Fifth Avenue, New York, an interesting series of exhibitions. Photographers who happen to be in the city on any of the dates given would do well to call and see the prints on view. The exhibition and dates are March 9 to 24, photographs by Eduard J. Steichen, New York. The exhibition will include the photographers' experiments in color-photography. April 5th to 23d, Multiple Gum Prints by German and Austrian photographers. April 25th to end of the season general exhibition of work by members of the Photo-Secession.

We recently received a picture postal card, showing a handsome city house with the imprint "Home of A. L. Bowersox." We congratulate Mr. Bowersox on the acquisition of such a substantial and artistic home. We have watched Mr. Bowersox's steady rise in photography from a humble beginning and are glad to see his efforts so well rewarded—and at such a comparatively early date.

G. Gennert, 24 E. 13th Street, New York, informs us that the supply of the *British Journal Almanac* and the *American Annual* for 1906 is almost exhausted. Photographers who have not secured copies of these useful annuals should see to it that they secure copies before it is too late.

Jas. H. Smith, of 306 E. 41st Street, Chicago, Ill., has sent us a sample of his new "Victor" flash powder. Tests made with it seem to bear out his statement that it has from four to twelve times the illuminating power of some of the older brands. A great saving in cost as well as a great reduction of the smoke nuisance must result from its use. Further details of this powder will be found in the advertising columns.

The March Chemical List, issued by the Chas. Cooper Co., 194 Worth Street, New York, for free distribution is the most complete chemical list we know, and should be in the hands of every progressive photographer.

PORTRAIT GROUP

Otto Boyé, San Francisco.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. APRIL, 1906. No. 592

WAGNER AND BLISTERS ON BROMIDE PAPER.

BY THE EDITOR.

LOOKING through one of our contemporaries, we came across an article entitled "Wagner and the Pianola," and we wondered what message Wagner had for the man who was seeking a remedy for blisters on bromide paper. We were unable to see any connection. Second thoughts made us wonder what Wagner could teach the photographer, and, to be frank, we do not think he knew anything about blisters.

Then we wondered if the photographer knew anything about Wagner or of any of the great masters of music, painting, poetry or science. We are afraid that his knowledge of them or their works is very slight. The average photographer is, unfortunately, not so well read or informed as he ought to be.

The photographer who would make portraits that are to be more than mere maps of individuals must be more than a master of lighting and posing—a lay figure can be lighted and posed and its portrait can be made, but let the photographer light and pose ever so wisely, he cannot charm the wooden expression from the wooden face.

How many of the "lay-figure" variety of photographs do we see in showcases and reception rooms? If the truth be told, they predominate. Pleasing pictures, and quite recognizable by friends and relatives. How long would a stranger gaze upon one of them? Three, five or ten seconds—long enough, perhaps, to take in a few details that might be brought out, then on to the next. Here and there we walk into a studio and see some portraits that are portraits. They compel our attention and admiration. We lay them down only to take them up again and again. We instinctively feel that we are looking at a personality. We see consciousness, character and will.

Why are these so few and far between? We can almost count on our fingers the studios where we know we can find them. The reason is a simple one. The photographer has lighted and posed, but has failed to arouse any interest in the sitter beyond the point of looking pleasant.

To get beyond the looking-pleasant point there must be some sympathy, some chord of interest between the sitter and the photographer. As one of our leading portraitists remarked to the writer as he sat for his portrait, "I can only take you as I see you." Therefore any lack of interest or sympathy between sit-

ter and worker will result in an uninteresting portrait.

The more general knowledge the photographer has the more subjects he can intelligently and interestingly talk upon, the more often is he going to get a portrait that is worth the name. There are a thousand and one subjects ranging from Wagner's music dramas to the last baseball game, any one of which is liable to stir up your sitters to varying degrees of interest and enthusiasm—you know and feel what he knows and feels on the same subject. You feel that you are on common ground. He soon loses all self-consciousness and forgets the real object of his visit to the studio, and the result is a portrait that is very much more than a mere contour map of the face.

The photographer needs more culture, more of that broad general knowledge that will enable him to meet and talk with all sorts and conditions of men; that will enable him to take up a thread of conversation and hold the interest of his sitter. A superficial knowledge is not enough, and may lead to pitfalls and a rapid decline of interest on the part of the sitter. The result will be the "lay figure" portrait. But given a subject of interest common to sitter and photographer, it is an easy matter to secure a characteristic portrait.

AN EXQUISITE TEMPERAMENT.—B. J. FALK.

BY SIDNEY ALLAN.

STRANGE, that I should have never run across this man before now. Only when my editor suggested his name did I recall that there was such a photographer in existence.

Although the name "Falk" is as popular as any in the photographic world, the man himself has understood to keep away from the glare of the limelight. He does not know the value of the pompous phrase, he has no pet theories to exploit, and has never tried to make himself a mode of the day. Not that he would not take his firm stand whenever there is a stir and bustle of thought—as, for instance, now in the copyright question—but he does it with an amiable and unassuming grace, keeping his own personality in the background. He prefers to let the products of his studio do the talking. The operating room is his field of action, and he is satisfied if the results reach the highest standard of excellence that his ability is capable of.

A new acquaintance is very much like a new book. It is only with old friends and old books that we may chat the hours away. A new friend, like a new book, may come into your life, and you may find both winsome. But it is not until the book is dog-eared and the man is worn down into a certain intimacy that you take a real pleasure in them. It is the familar book—with its friendly savor of a favorite dish—that gives the greatest satisfaction; in equal measure you cannot really like a man until you know what to expect of him.

But there are exceptions, men that give themselves so naturally that even at the first meeting you feel perfectly at ease, as if you knew them for a long time. Such a personality is B. J. Falk.

He impressed me by the gentleness of his manners, the sincerity of his opinions, and the loyalty to his profession.

Falk belongs to the old guard—having established himself as early as 1877—but to the old guard that "never surrendered"; on the contrary, shrewd man of affairs that he was, he kept apace with the technical innovations and the fads and fancies of each decade, and is to-day as successful as any of the younger men. He began in the old collodion days, was one of the first to adopt the dry plates, and after years of so-

called "professional work," branched out as a society photographer. Who else would have had the courage and insight to open a fashionable studio in the Waldorf-Astoria? And after all these experiences of a long career of twenty-eight years—he is now situated in West 33d Street opposite the Waldorf-Astoria—he is as alert and progressive as at the start. The best proof for this is that he is the only *portrait photographer* who went seriously into color photography. He clearly sees, even as I had occasion to state at various times, that portraiture in color will be the most important development in the evolution in photography, and he only regrets that his present business does not allow him to take it up as a specialty.

The advent of portraiture in color is to him inevitable. It has been coming all this time. Already, fifteen years ago —one and a half years before Prof. Vogel in Germany—E. Bierstadt, in Reid Street (N. Y.), tried to solve the problem. More recently Kurtz experimented with still lifes on three plates.

Bequeral, Poitevin, Lippmann, Joly, Clark-Maxwell, have since endeavored in various ways to mirror the colors of nature. New cameras, filters and printing papers for that purpose are continually invented. It has become merely a question of time. In the meanwhile a studio has been opened in Berlin that devotes itself entirely to color portrait-photography. Falk, in turn, sent over for one of those experts. The experiments which he made in his studio were quite successful, but he found that the difficulty of successive or simultaneous exposures, of registration, of keeping the apparatus in order, etc., were still too elaborate and expensive to be handled as "a side issue" in any photographic establishment.

"One had to devote all one's time to it, and I can't afford that," he modestly remarked, "so I have shelved it for the present; but it is one of my dearest wishes to see it effective, in good working order, before I make my departure from this earth."

The way he said it showed me the man in a clear light. He does not seem to care a snap for any personal glory; of course, he would not object to it, he would even feel proud of it, but the principal concern is after all the welfare of photography. I have met few men in my life with such an impersonal attitude toward their own accomplishments.

Glancing over the work on his walls, I was surprised at the unevenness of the display. There were a few as perfect as photographic craftsmanship can make them, others merely represented a fair average, while some were disappointing, to say the least. I do not remember of ever having seen the work of one studio cover such a wide range in character and quality, from the commonplace to the most exquisite specimen of portraiture. Why, some of his portraits, particularly one of the profile of a young girl rather curiously spaced, were even "secessionist" in tendency.

"It is rather easy to make that sort of a thing, if one wants to make it," he remarked. "To put good, strong qualities into the average run of your work is by far more difficult. You see every man is subject to moods. Did you never notice, looking at the different show cases, that the expressions on the faces of one photographer are all serious, while those of another are all gay and cheerful? The temperament of a photographer always gets into his work. There is no escape from it. And the temperament itself is due to changes. Some morning when I am in bad humor, no matter what I may do, all my sitters will have a sour expression in their faces. On the other hand, when I feel particularly happy or elated over some good news, my feeling is sure to impart itself to the countenance of my sitters."

This sounded very plausible, and in a way explained to me the unevenness of his work. Yet, after all it seems to

me only possible with a man who possesses a temperament generally so exquisite in tune that even its slightest discords will influence those who come in contact with it.

"For that reason," Falk continued, "I try to work as quick as possible. Already in 1881 I was in favor of rapid exposure. I divided the usual times of exposure: ten or twenty seconds by ten, which gave me one to two seconds. I worked under the strongest light I could get. My idea was the photographer has to do it all if he does not suceed in getting a straightforward, life-like expression; he alone is to blame for it. And for that quick work is absolutely essential. At that time, when nearly all my time was taken up by theatrical work, I was also fond of making all sorts of stunts—for instance, a clown jumping through a hoop" (and he showed me the negative). "I wanted to give the impression of instantaneousness."

"And do you still work in the same fashion?"

"The light in this studio is not good enough for very rapid work. You see, my skylight is of blind glass, and in summer I have to screen off the light by two sets of curtains, as the reflections of the red walls opposite interfere considerably."

Falk seems to me to be one of those men who do not fret much about possible disadvantages and that sort of a thing, but who readily adapt themselves to conditions and always do the best they can under the prevailing circumstances.

Talking of lighting he spoke of Sarony, who really had an ideal arrangement for lighting. "No fancy light, the light was more direct—a matter of angles—very strong and always of the same quality. He merely had to pose a person there and was sure of a result. Of course he differentiated the light values. I do not agree at all with those photographers who light all persons in the same way."

"You are of the opinion that different types of character should be differently lighted?"

"Decidedly so. One has to find for each character the light which is best suited to the complexion, the color of the hair, the expression of the face, or any physical characteristic. For instance, if a girl has a peculiar interesting curve in her shoulder or arm one wants to emphasize it, as long as it is beautiful."

Glancing at his collection of "theatrical" backgrounds, which are of a most astounding variety, I asked him whether he had not found it necessary to simplify his general studio outfit as so many of his contemporaries have done.

"No, I have always worked very much the same way," he replied.

"You seem to be peculiarly free of any theory or pose," I interrogated.

"Yes, I don't go in for that sort of a thing. I haven't the gift of talking as some other men have. All I try for is a good, satisfactory likeness, a pleasing effect, well posed and well lighted."

After inspecting the reception room and the studio, Mr. Falk invited me to his private den, a large and curious room, crammed full with books, pictures, statuary and souvenirs of every description. Also the growlery—so familiar in western studios but sadly absent in New York establishments—was not missing. One could not help feeling at home.

And there we sat in the twilight and talked of conventions and exhibitions, of color and "freak photography," of the Metropolitan Section of the New York State Society and the copyright law. Noticing a few of the charming photographic crayons of Sarony on the wall, the latter became for awhile the topic of our animated conversation. We both agreed that he was a wonderful man, a true genius in his way. Unphotographic? Why, of course, in that particular kind of work, even as Steichen is to-day. Steichen and Sarony, an inadequate comparison! Not at all. Each man represents a different phase of art,

and one as good as the other, I suppose, in the long run of time. Sarony will always occupy a little niche in the estimation of photographers. Let us be just and hope that Steichen will do the same.

Falk told me how he had admired Sarony, how much he had learned from him; that he really owed "an awful lot" to him.

Be that as it may, I cannot quite agree with it. In my humble opinion Falk owes all that has made him dear to his friends and valuable to the profession solely to himself, to his modesty, his sincerity, his adaptibility and rare craftsmanship, his loyalty and unselfishness in all that pertains to the welfare and progress of photography, and above all else to his exquisite temperament—that has won me over to his side the first time I had occasion to feel the firm grasp of his hand in mine.

THE HANDLING OF FAULTY NEGATIVES.

BY E. L. MIX.

In many studios the question seems to be "How many prints in a day can the printer make of a number of ordered negatives?" Every studio at some time or other has the pleasure of making a sitting one day and promising some finished prints by noon the next. If the negative is one that needs no "doctoring," all is well; but it often happens that it *does* need "doctoring," and then it is difficult to get a passable result. The time is so limited that it is almost impossible to finish the prints as they should be and to please the customer. In such a case, when the prints are finished and ready to be delivered, the operator or reception-room clerk calls the printer downstairs and wants to know "Why it is that the pictures are so dark on one side, so chalky on the other, and why isn't there some detail in that white dress, for I am sure the negative was all right, etc." The printer's work is judged by the finished prints, and if a rush order is printed in the time allowed and the prints are bad, the printer is blamed for the result.

Of course, they do not consider that, perhaps, the negative was faulty and needed extra handling. They simply wanted the prints by a certain time, regardless of everything else. There seems to be a lack of consideration on the part of the reception-room clerk and operator in the matter of time when promising work, for we know that the negatives sent up to the printing-room are often not perfect, the defects being various, such as faulty lighting, under-timing, overdeveloping, etc. When such a negative is handed to the printer he is expected to get very nearly as good a result from it as from a good one. Though this is obviously impossible, the experienced worker can by judicious manipulation, get the best obtainable results. There are several ways of "doctoring" up such negatives; for instance:

A negative is received by the printer, which, when put in the frame and printed, gives the shadow in the finished print a trifle too heavy. In that case, by blueing the shadow on the negative with a little Prussian blue, the shadow will print more evenly with the higher lights, and produce a more pleasing result than had it been printed without being "doctored."

Another simple method is to use powdered charcoal. Rub some of the powder on your finger, then, holding the tissue frame and negative up to a window, rub the finger on the parts of the tissue corresponding with those on the negative that are to be affected. The result will be that the negative will print evenly and give the higher lights and half-tones a chance, and the finished pictures will

be more pleasing to the customer, as well as to the photographer, than if they had been printed in the ordinary manner. Of course, overdoing the matter is as bad, if not worse, than not touching it at all. A little practice will give one the correct idea.

Again, in a negative strong in contrast, say a woman or child dressed in white and printed without "doctoring," there is often nothing but a patch of white to represent the dress after the print has been toned and fixed. Take the tissued frame and negative to a window, trace with a lead-pencil the light side of the face and dress, remove the negative from the frame, cut out the part traced on the tissue with a knife, then put another piece of tissue on the frame, put your negative and paper in the frame and print. Note the first print. Should the shadow still print too dark before the light side is dark enough, use charcoal. The finished print will have detail in the dress, and the whole print will be more acceptable to all concerned as compared with the first print.

Occasionally a negative is handed to the printer which seems a hopeless case. I have printed from a negative and got good results when even the operator was skeptical. The subject was an old man, nearly ninety years old, white hair and beard, a very red complexion. The negative was badly undertimed and overdeveloped, making a very hard and "contrasty" negative. The printer was expected to get the best print possible from it. I first blued the shadow, then cut the tissue on the light side of the face, and, after using some charcoal on the outside tissue, printed it in the shade. The finished picture, considering the negative, amount of "doctoring," etc., was first-class. The time taken to secure this result was fully paid for by an order for a number of duplicates. This was an exception and needed "heroic" treatment.

It takes but a few minutes to "doctor" a negative in any or all of the ways mentioned, and the finished pictures are so much the better as to fully justify the time taken. Many good orders are often secured by these means.

CARBON PRINTS ON DAGUERREOTYPE PLATES AND ALUMINUM.

BY A. J. JARMAN.

One of the most beautiful products of the carbon process is a finished print upon a highly polished silver surface, such as that of the Daguerreotype plate. These pictures have already been called the twentieth century Daguerreotype. Although the surface may be matted so as to give a delicate diffused whiteness, the result is not so effective or attractive as the mirror-like surface of highly polished silver. A copper plate may be electro-gilded and polished to a high degree, and the carbon print developed thereon by the single-transfer process or by double transfer, yet the effect is not so pleasing as the silvered surface of the Daguerreotype plate.

Method of Production.

The easiest and best method for the production for this kind of print is to employ the single-transfer process. In this case a reversed negative is necessary, and this can be produced in four different ways. First, by a reflecting prism; secondly, by reversing the film, removing it from the negative and remounting it upon a clear glass plate in a reversed position; thirdly, by the use of a celluloid film for the negative, obtaining the reverse by printing through the film, and fourthly, by reversing the sensitive plate in the plate holder.

If the film must be removed from a glass negative for the reversal, it will

be found better to transfer it to a piece of clear celluloid, the surface of which has been well cleaned and prepared by coating with a thin solution of gelatine —ten grains of gelatine to one ounce of water. The stripping of the film from a gelatine negative is easily accomplished by making up the following solution of chrome alum; twenty grains of commercial chrome alum to each ounce of water. Allow the negative to soak in this for twenty minutes to thoroughly harden the film and prevent after expansion. After this treatment the plate must be well washed in running water for ten or more minutes, when dried make up the following:

Fluoride of sodium (commercial)	½ ounce
Citric acid	¾ ounce
Water	10 ounces

As soon as the salts are dissolved take equal parts of each and mix them in a hard-rubber tray (not glass or porcelain); insert the negative and rock the tray. In three or four minutes the film will pucker around the edges. Now take the top edges of the film with the forefinger and thumb of each hand, lift it carefully from the glass and dip it into clean water; then while still wet lay it down upon the celluloid, the face of the film being reversed. The film is easily adjusted upon the celluloid by means of a camel-hair brush; any air-bubbles may be removed by stroking the surface with a flat camel-hair brush; this will also squeeze out any superfluous water. The celluloid must now be pinned down upon a clean dry board and remain in a horizontal position until dry. In this case the celluloid negative will be printed with the film side direct upon the carbon tissue, instead of printing through the film. The film when once stripped may be transferred to a glass plate in the same manner.

The Silvered Plate.

Having the reversed negative now ready the silvered plates must now be prepared and polished. The easiest way to procure these plates is to obtain what is known as reflector plate; this is very smooth copper plate silvered on one side ready for polishing—this can be readily done by any electro-plater at a small cost. Take the plates, one at a time, holding them at one corner with a pair of pliers; dip the plate into a solution of potash lye or a strong, warm solution of common washing-soda, rub the surface over in straight lines with a tuft of absorbent cotton pressed into the end of a six-inch piece of india-rubber tube; the rubbing must be done very lightly so as not to scratch the surface of the plate. Rinse the plate in cold water; observe whether the water stands upon the bright surface without showing any greasy appearance—if so the plate is clean. As soon as the plate is washed pour over it a few ounces of distilled water; this forms the last rinsing, the object being to create such a clean surface that there shall be no organic matter or lime left in the few drops that remain upon the surface when drying and thus mark the surface. The plates may now be stood aside to dry, away from sulphurous fumes. If only a few plates are to receive treatment, it will be better to carry out the cleaning as above described, and flood the surface of the still wetted plates with a plain warm solution of gelatine, ten grains of gelatine to one ounce of water, then allow to dry; those that are cleaned and dried without the gelatine coating are to be coated with plain collodion, this being an alternative method of preliminary coating before the printing issue is attached.

Sensitizing is carried out by preparing a bath of sensitizing solution as follows:

Bichromate of potash (c. p.)	1½ ounces
Water	50 ounces
Carbonate of ammonia	20 grains
Glycerin	2 drachms

As soon as the crystals are dissolved, filter the solution through absorbent cotton into a clean, wide-mouthed, amber bottle; this done, pour the mixture into a clean tray (carry this work out under artificial light), and put into it a piece

of carbon tissue, about 8 by 10 size portrait brown in color, completely immersing it, face down; then turn it over and brush the surface over with a flat camel-hair brush to remove the air-bubbles; then turn the tissue over again, face down, and allow it to remain for three minutes from the time of the first immersion; then remove it and lay it face down upon a sheet of clean glass 11 by 14; place upon the back a piece of thin India-rubber cloth and apply a squegee, holding the cloth at one end with the left hand, applying the squegee with the other; as soon as the excess of bichromate solution has been squeeged out lift the cloth and wipe the back of the tissue with a piece of soft rag; lift the two top corners of the tissue, insert the tips of two photographic clips, lift the tissue and suspend it upon a stretched wire in a dark room to dry.

If the tissue is prepared in the evening it will be perfect-dry the next morning. No light except a ruby or deep-orange light must be allowed to reach the tissue, as it is now very sensitive. It may be cut into pieces the size required.

The negative must now be masked with a piece of black paper, the hole being cut three inches by four; this is to allow one-eighth of an inch for the safe edge. The piece of tissue, 3¼ by 4¼, is now placed upon the masked negative in an ordinary printing frame just the same as for ordinary sensitized paper, the back adjusted ready for exposure. In exposing take another negative of about the same printing qualities as the negative to be printed in carbon, place upon this negative a strip of sensitized printing-out paper and put the two frames out to print in bright daylight; after a short time turn both frames over, removing the strip of paper as soon as it is about one-third as deep as it ought to be for a finished print. Repair to the dark-room, remove the tissue and place it in a light-tight box, and continue the printing until the required number of prints have been made.

Development.

Development may now be proceeded with in the following manner: two trays 11 by 14, made of hard rubber or composition, and two enamelled iron trays the same size are necessary. Make up a solution of common alum, two ounces of powdered alum to twenty ounces of water, and filter; this is best made with hot water and allowed to cool. Place this in one of the hard-rubber trays, half fill the second tray with cold water and immerse the printed tissue in the water; allow it to remain until it lies nearly flat; remove and dip it into a clean mixture of sugar and water, half a pound of sugar in ten ounces of water (in fact, white syrup). Take one of the silvered plates that has been coated with the gelatine solution, wet it in clean water, dip it into the sugar solution and lay it down upon a clean, smooth board, face up; then place the tissue upon it, face down; adjust it in position, cover it with the rubber cloth and apply the squegee, at first lightly, then increase the pressure, but do not stroke the squegee too quickly—a slow even pressure is best. Now lift the cloth, lay the plate with its tissue aside and treat the others in the same way, placing a piece of thick blotting-paper between each as they are stacked and allow them to stand for twenty minutes. Then place them in one of the enamelled iron trays containing lukewarm water; let them remain in this for five minutes; take one of them and dip it into the second tray, containing water somewhat hotter. In a short time the coloring matter will be seen to ooze from the edges of the plate. Now take hold of one corner of the tissue and lift it carefully off the plate beneath the water; throw this into the waste box and proceed to develop the print upon the plate by holding in the left hand while in the water, and throwing water over it with the right. The temperature of the water must be kept up by the addition of more hot water. In the course of a few seconds the print will be seen to stand out upon the plate,

and in the course of about one minute the development will be complete.

The print now must be washed in a soft stream of running water and placed in the alum bath for one minute. It is then rinsed again carefully under the faucet and laid to soak in a tray of clear water for a few minutes or so to get rid of the excess of alum. It must now be rinsed for a few seconds under a stream of water and stood in a clean rack to dry. The other plates that have been soaking in the warm water can be taken in hand in the same way, in fact they must not be allowed to remain in the warm water too long before removing the tissue, as the plates are liable to become marked.

The effect produced is charming in every particular. Before you is a picture with all the beautiful gradations of tone as in the Daguerreotype, the shadows being semi-transparent, the beautiful reflection of light in the high-lights from the bright silver surface beneath, and above all there is an absolutely permanent picture upon a silvered surface. As soon as the print is perfectly dry it can be spotted if necessary and then varnished with a clear varnish, the formulæ for which will be given herewith. Do not use a chrome-alum bath for the semi-hardening of the print, this salt being liable to make the film too hard and cause it to crack; use the common powdered white alum.

In employing the alternative process, where the plate has been cleaned and dried, about half a pound of plain collodion wil be required. In this instance the plate must be coated with collodion by pouring a pool on the centre of the plate and allowing it to run to each corner; then drain the excess back into the bottle. In the course of about half a minute place the plate, face up, in a tray of clean water; allow it to remain until the ether and alcohol are washed out, then place the wetted carbon tissue in the same maner as described for the plate with the gelatine coating, only in this case the use of the syrup may be omitted, all the after operations being the same as described.

Aluminum Plates.

In the case of aluminum, the sheet metal, which need not be at all thick, should be procured already frosted, and if a special size and shape of plate is required, perhaps with burnished edges, then it will be advisable to get the plate cut to shape, and have it frosted or matted by an electro-plater. In making portraits on aluminum, the metal must be cleaned in a warm solution of common soda to get rid of any grease spots, because the solution of potash lye, especially if very strong, is liable to attack the aluminum, this metal being acted upon vigorously by the caustic alkalies of potash and soda. All that will be necessary in the use of aluminum, after cleaning and rinsing, will be to dip it in the syrup and the printed carbon tissue as well, after soaking it in cold water until it lays flat, and squegee them together as in the silvered plate, not attempting to develop until the two have remained together for twenty minutes or more. Development may then be proceeded with in the same manner as the silvered plates.

The collodion used in this process is not the enamel collodion—this is too thick—the collodion required is thinner; so that if enamel collodion is the only kind procurable it must be thinned with a mixture of equal parts of pure alcohol and sulphuric ether. A clear, hard varnish suitable for the coating of these carbon prints upon metal can be made as follows:

Clear celluloid	25 grains
Concentrated amyl acetate....	6 ounces

Cut the celluloid into strips, place the above into a clean dry bottle, stand this in water which must be brought to boiling point, a piece of folded paper between the bottom of the bottle and the pan to prevent the bottle from cracking. The mixture must be shaken well several times and the bottle allowed to remain in the hot water to cool down gradually. In the course of about six hours the celluloid will have become liquefied. The mixture must be shaken well to in-

sure complete incorporation. This preparation will present the consistency of castor oil and may have to be thinned down slightly, which is accomplished by the addition of an ounce or two of the concentrated amyl acetate; this preparation is known under the name of crystalline. The surface produced by this preparation is exceedingly tough and resistant; a photograph upon metal or glass when coated with this varnish becomes quite waterproof. It is applied by pouring upon the plate the same as described for collodion.

The drying may take place by spontaneous evaporation at ordinary temperature, or may be aided by heat. The first method is the best. Another waterproof varnish may be made by mixing the following, in this case no heating is required:

Concentrated amyl acetate.... 6 ounces
Pyroxylin (gun cotton) ....240 grains

Shake the mixture well, nearly the whole of the pyroxylin will become dissolved, filter through a piece of cheesecloth pressed lightly in the neck of a glass funnel; repeat this operation twice. The varnish is now ready for use.

In using these preparations, pour only a small pool of the liquid upon the plate, give it time to flow to each corner. This will prevent the overflow at the edges, the varnish being more viscous than ordinary collodion; while if it is too thin the surface will show up in prismatic colors. In this case the plate must be varnished twice.

THE ART OF PAINTING PROGRESSING WITH PHOTOGRAPHY.

BY LEON VIDAL.

As indicated by our title, photography in colors is advancing to a brilliant destiny. Although it has often been spoken of as a fact, it is none the less true that the thing is at present to be considered as having only attained the position of requiring some years more research before we can encourage the hope, with some measure of truth, that the end has been more nearly accomplished.

The process which seems to stand before all others is that of simultaneous selection instead and in place of separate and successive selection. Evidently it will be seen, as in all simple applications, why it is, after having made necessary the employment of three distinct screens, each effective on a corresponding plate, that we arrive at not more than one operation on a single sensitive plate constituted in harmony with the three screens, reducing to a minimum of the possible surface and dispersing to infinity on all parts of the sensitive plate.

This is certainly not a new idea; it occurred to Louis Ducos du Hauron in 1869. After him came Prof. Joly, in Dublin, with his plate of multiple screens obtained by the aid of lines in juxtaposition, alternating of red, green and blue. Sampolo and Brasseur improved on this by ruling the lines seventeen to the millimetre instead of seven or eight to the millimetre, as employed by Prof. Joly.

After that came the method of MM. Auguste and Louis Lumière, based on the employment of grains of potato starch, suitably sifted and tinted to the three color values.

A mixture of these colored granules in convenient proportions is dusted on to a glass plate, covered with a sticky film, to which the starch therefore adheres, the granules lying very closely one to another to form a screen of three colors.

Nevertheless they could not cover absolutely all parts of the plate, the interstices between the granules being filled up by the black powder of the granulation and varnish, and consequently susceptible of replacing the spaces not covered with the starch.

There are about fifty of these gran-

ules in the space of a millimetre, which form a selective screen very much more close than that of Joly or of Sampolo and Brasseur.

MacDonough arrived at the same idea by means of a gum lac, pulverized and sifted.

Quite recently the *Photogram* published an article relative to a chromatic plate perfected by John H. Powrie, of Chicago. This plate is ruled very closely with colored lines of 600 to 800 to the inch. Here, again, the idea is the utilization of a multiple color screen.

From these several indications regarding the employment of plates with multiple screens we see a convergence of views which is almost identical even to the details of operation. So far the method of Lumière seems to be the most likely to meet with success.

We are not speaking merely from a cursory examination of the process, but after having thoroughly looked into and admired the results, which are in every way surprising, and absolutely convincing. There is no doubt, however, that a lot of technical skill is required to make such plates, and the difficulties to contend against on account of the delicacy of the work are indeed considerable. But we are accustomed to believe in Messrs. Lumière as being capable of accomplishing marvelous things, and we think they are in the way of realizing the crowning point of the whole of their wonderful productions. Of this we have seen sufficient to prove the possibility though we were at first somewhat incredulous, not believing that such a method of selection would lead to a truthful representation.

Amongst the work of this kind which we have been shown were two examples 13x18 centimetres (5x7½ inches), and these were transparencies for projection. The first was an inimitable picture full of the infinite light and shade of nature. In this the sky, the sea, the verdure, and the sunlight were all rendered with extraordinary truthfulness. When this is projected by any means the effect is extraordinarily realistic.

After this we are led to conclude we shall soon be able to obtain similar results. Nevertheless, to turn out such work commercially there are many difficulties, as one can readily understand. It is evident that the plates must be coated with the various granules of the greatest purity to form the three color values, and such plates must not be exposed to the slightest ray of white light. Moreover, this coating must be isolated by means of a water varnish of a suitable index of refraction, and this in turn receives the coating of sensitive emulsion. This is prepared by the reduction of a salt of silver, the grain of the silver being rendered as fine as possible.

Briefly, in the solution of this problem one has to take into account many factors, all of a very delicate nature, and the neglect of any one of which may spoil the operations. That is why a commercial output of the plates has not yet been attained. But when success in these matters has been reached, it will be possible to produce a photograph in colors at one exposure and with a single development.

The only drawback to this method is that it is not applicable to prints on paper. But everything in good time. It will assuredly come, we are convinced, when Messrs. Lumière complete their work by giving us prints in color. It may be that the year 1906 will pass by without these plates becoming articles of commerce, but when they are, this firm will undoubtedly be flooded with orders from all parts of the world.

Another sign of progress is to be observed in M. Lippmann's process of interference photography. In a communication to the Academy of Sciences he gives the results of experiments made with a film of bichromated gelatine, the water from which has been evaporated to solid matter and fixed so as to preserve the visibility of the colors, which

disappear through dessication. He then immerses the plate, not in pure water, but in an aqueous solution of iodide of potassium. After drying the colors still exist, but are feebly visible. The iodide of potassium then remains in the plate unequally divided by the maxima and minima of interference. If now the surface of the plate in the dry state is treated with a 20 per cent. solution of nitrate of silver the colors will reappear with extraordinary brilliance. If after washing the plate it is dried the colors remain with all their former brilliance. It is established by these results that the colors viewed by transmitted light are changed to their complementaries, and the negatives thus obtained are brilliant.

The eminent *savant* concludes from these experiments that we have arrived at a time when we may obtain the same results, not only with bichromated coatings, which are of slight sensitiveness and slightly orthochromatic, but with films of gelatino-bromide, and one should be able to multiply the proofs in colors by printing in a frame in the same way as ordinary photographs. Without doubt we shall arrive at the printing by contact of positives in color from the polychrome negatives of Messrs. Lumière.

We are bound to admit from the indications of these two processes that photography in colors is well in view, that quite important progress has been made, and that there is hope of being able very shortly by means of the ordinary operations to obtain quite artistic and delicate results.

We do not say we are on the point of a practical solution, but that the theories having been proved and demonstrated there is no doubt that the problem, still so complicated, of the selection and impression of colors, will soon be transformed into a more simple and flexible method.

In conclusion, the view that should be taken is the firm conviction that this end will be realized, for the greater honor of photography and for the gratification of the numerous amateurs who are rather tired of monochrome, and are eager to reproduce the charm and truth of color. —*Penrose Annual, 1905-6.*

THE CHOICE AND USE OF LENSES.

THE lens is the most important part of the photographer's outfit, and therefore due consideration should be given in selecting the one which is most appropriate to the particular branch of photography which is most required.

The following lecture, delivered by E. A. Heywood, before the West Riding Optical Society, will prove interesting:

Aplanatic, anastigmats, rectilinear, rectigraph, double anastigmat, Steinheil orthostigmat, Beck, autograph, wide angle, rapid symmetrical, single acromatic, rectigraphic, detective aplanats, pantoscope, periplanat, triachromat, euryscope, plastigmat, periplan, etc. No wonder bewilderment strikes the tyro when faced with this array of high-sounding titles—made of glass and brass; commodities common enough in all conscience. but when made in the form of a photographic lens—well, turn up your catalogues and note the wonderful transformation in value. Let us simmer this lot down to an intelligible level. First, then, the definition of these "high titles," most of which are created for registration purposes:

1. Periplan, Greek—peri, "around," plan, "plain."
2. Plastigmat, an abbreviation of plain and anastigmat.
3. Triachromat, tri, three single lenses cemented together, claimed to be a marked improvement on the ordinary double-lens system.
4. Periplanat, our old friend the Greek affix again—plane, all round.
5. Pantascope—circle prefix to see.
6. Euryscope—linear.

7. Detective aplanat, rapid rectilinear.

8. Rectigraphic, to graphically delineate.

9. Single achromatic, corrected for chromatism.

10. Rapid symmetrical, quick proportionate delineation.

11. Wide angle, short focus (use in limited areas).

12. Autograph, a good word, self-acting graphically.

13. Orthostigmat, from orthogon, a rectangled figure.

14. Anastigmat, practically a rectilinear lens of great rapidity, varying angles.

15. Aplanatic, from the two Greek words, signifying no straying. A corrected lens; to use another word, rectilinear.

If you have followed my attempt to level out the various titles of lenses, you will conclude that they may be classed under four heads:

The simple lens.
The achromatic lens.
The linear lens.
The wide-angle lens.

The first is made up of a single converging lens, a veritable exponent of the term conjugate focus—photographically, without a definite focus, a lens full of faults and imperfections. The other three are compound lens systems, especially adapted to bend rays of light, in order to serve certain conditions requisite for all classes of photography.

It is well known that a prism reflects or bends light to the base. Thus if two prisms were fixed, both bases inwards, we should have an illustration of a double convex lens. Bearing in mind this fact, we now see clearly why a double convex lens cannot focus all the rays on one plain; the rays of different colors would centre at different points.

All lenses are sections of spheres; the inch focal measurement, as usually expressed, means that the rays incident upon a plano convex lens come to a point at a distance exactly equal to the diameter of the sphere of which the lens is a portion. In the case of a double convex, the distance of the focus of parallel rays is equal to the semi-diameter or "radius" of the sphere.

Thus, a six-inch lens means that such a lens brings rays of light to a focus at six inches from the source of incidence, and that such a lens curvature, if continued, would form a circle of a diameter of six inches.

Up to the point of incidence, rays travel at uniform speed; the refraction, however, which then takes place tends to partially split up the light and gives us a kind of prismatic effect. The higher the degree of curvature the more noticeable is this defect, termed chromatic aberration. Another fault is also noticed that the object looked at appears to be more and more curved as the curvature becomes greater; this distortion is termed spherical aberration.

Spherical aberration is particularly noticeable in common qualities of convex spectacle lenses of high power, and it will be noticed in spectacle optics that a glass, say, of 8 D, if made of less acute curvature, gives greater comfort than one of equal focus of a less diameter. A small hand reader of three-inch focus and one-inch diameter is a veritable exponent of positive spherical aberration.

By decreasing the field illumination, viz., cutting off the marginal rays by means of a stop, we may still make a single convex glass useful to the budding amateur, for by this means the two troublesome hindrances to lens working are to a certain extent disposed of.

I said to a *certain extent* for the correction here given does not dispose of the terrible risks of the many falling buildings heroically snapped by the venturesome amateur under immense masses of stone at an angle of forty-five degrees. Of course, there are different lenses for different purposes. I have a picture of the demolition of a very high chimney at Burley, midway between the sky and

the earth, upon which really no adverse criticism could be advanced.

A falling chimney with the sky as a background affords a good subject for a single lens camera. A second picture with the same camera taken when the huge mass had reached the ground showed an indication of a start to regain its vertical position.

The "hour-glass distortion" is the result of a stop placed behind a single lens. The barrel-like curves are the result of a stop placed in front of the same lens—thus showing quite clearly the necessity for better material in order to make photographic optics a success. We have seen the results of positive aberration and negative aberration. A further step, then, in photographic optics is to make the two defects neutralize each other. Complete neutralization would result were the curves of the convex and concave equal, the result would be plain glass; due consideration, of course, gives us lenses of varied foci and brings before us aplanatism, or the achromatic lens of a single form made up of a concave diverging power and a convex converging power, the resulting focus being positive.

Such a lens, however, is not free from curved distortion, for, although the image may be fairly linear upon the ground glass, development of the latent image shows the defect, more particularly when criticized from a black and white point of view. The photographic gamut of light and shade in other respects is occasionally a poor representation of the beautiful colored image impinged upon the focussing screen.

Chemical focus becomes a matter only for serious consideration to the worker in three-color photography; the chemical rays of the spectrum violet should be in focus with the best achromatic lenses. With a non-achromatic lens there is a difference between the visual and the chemical focus.

Depth of focus may be said to be common to all lenses, when suitably stopped down. A picture which shows great depth of focus in nine cases out of ten owes its value to judicious exposure, development and, more important still, a generally diffused light and the color of objects. Generally speaking, however, lenses of the shortest focus have the least depth; this fact renders the wide-angle lens a dangerous tool in the hands of the general worker. Depth is secured by stopping down. If, then, securing depth of focus be our aim, we must emulate the "pin-hole" which possesses this particular virtue, *depth.*

Angular aperture is determined by the cylindrical bundle of rays which pass through the lens. When the diaphragm is in front of the lens the hole indicates the aperture of the lens, but if the diaphragm be behind the lens the hole cannot be an indication of aperture because the lens acts upon the light before it reaches the diaphragm. To find the aperture of a lens, first focus a distant object and replace the ground glass by a sheet of cardboard, making a pin-hole coincident with the axis of the lens. In a dark room place a candle behind the pin-hole and the focussing screen before the lens. The size of the disc of light is the aperture of the lens with the diaphragm used.

Although the lens is a very important item, without the aid of stops it would be but a poor aid to the photographer. Its value may be simply demonstrated by twisting your newspaper in the form of a tube and looking at a distant object or the screen. It will be at once noticed that the view is considerably sharpened.

These stops are made in various forms, the first used being that of the "Waterhouse" kind, formed of blackened metal discs placed within a slot, another form being a rotating disc having various sizes of apertures. The most universal is that termed the iris diaphragm, formed of a number of concentric plates pivoted to a circumferential band, which, being actuated by a projecting peg, diminishes or enlarges the aperture. The best form is the band iris; the relative

aperture is marked off on a scale upon the lens top.

The iris diaphragm owes its existence to the natural iris, from which form the lens-maker has copied one of the most beautiful works of nature. If the lens may be styled the eye of the camera, then the stop is the iris, and the aperture of the stop is the pupil of that eye.

By the use of stops we, as before stated, increase the defining power of the lens, and decrease both the chromatic and spherical aberrations, the marginal rays being cut off, pictures are rendered sharper, and the amount of light being under control, exposure can be regulated in proportion to the rapidity of plates.

A perfect knowledge of the operation of stops or diaphragms in photographic lenses and an apt judgment in putting that knowledge into use, constitute one of the most important qualifications of a successful photographer.

All the parallel rays fall obliquely upon the flat surface of a condenser and are thus upon emergence scattered in all directions. But by inserting a stop only those rays which may be brought to a sharp focus are transmitted. This is an illustration of extreme spherical aberration.

Opticians frequently come across old makes of lens stops, some simply numbered, 1, 2, 3, 4, etc., others having no marks whatever. Since, however, the introduction of the uniform system established by the Photographic Society of Great Britain, a universal standard has become recognized.

In no department of optics is standardization of greater necessity than that of diaphragms. The system adopted is that stops have a definite relation to the focal length of the lens.

The length having been ascertained, the stops are considered as fractions of the focus; thus an eight-inch lens would be represented at open aperture by $f/8$, the largest stop being No. 1, and would be thus expressed—focal length 8", the aperture being one-eighth of the focal length. The area of the next stop would be half the size, the third half the area of the second, and so on.

The amount of light transmitted by each of seven stops is, say:

8,	11·31,	16,	22·62,	32,	45¼,	64,
1,	½	¼	⅛	1/16	1/32	1/64

hence the exposure must be greater as the stops decrease in size, the rule being to double the exposure with each smaller stop.

If a lens is said to work at $f/8$, the lens at that aperture should show that it covers the plate, or is sharp to the edges, giving a correct field or circle of illumination; the larger this circle is the better. If only just covered, the advantage of a rising front and swing back is to a certain extent lost, and shows an under-exposed effect at the margins.

The width of angle of view included by a lens depends upon the size of plate used—narrow, mid, or wide angle, is proportionate to the covering surface.

Thus a lens of eight-inch focus would be a narrow angle lens upon a quarter-plate surface, the same lens upon a half-plate surface would represent a mid-angle, and upon a whole plate a wide angle.

Astigmatism, or incorrect spherical definition, was said to exist in all lenses prior to the introduction of the modern anastigmat. Astigmatism means "without a point," those whose vision is astigmatic will readily understand this part of the subject. It has been said that all eyes are more or less astigmatic, that is, a figure of horizontal and vertical lines cannot be correctly focussed upon the retina. When this defect assumes a certain degree cylindrical lenses are adapted for its correction. The ordinary single achromatic and rectilinear lenses vary in this fault. Some I have tested—although fairly up to the average necessity—fail in this respect. Glass of highly dispersive and refractive index, such as the new Jena glass, is indispensable for producing the modern anastigmat.

ADVICE TO SITTERS.

"I ALWAYS tell women," said a well-known photgrapher, "that they ought to be photographed with as few clothes on as possible. I don't mean by that advice that they should do the least thing to bring the blush of shame to the most modest cheek. I only want them not to make their dress too modern and characteristic of the styles of the moment. Nothing makes a picture look so very much out of the mode as some costume of fiften or twenty years ago, which may have been the smartest thing possible at that time. But fashions change so positively that few of them are tolerable to look at after a decade. On the other hand, a woman who has been photographed with only the head and bust revealed will never give any sign of the passage of time in the appearance of the picture. She will not have the antiquated, out-of-date look that makes some photographs ridiculous. Puffed sleeves were worn only five years ago, but the picture of a woman taken in one of these dresses is really absurd. Even greater than the changes in the style of gowns is the difference that comes in hats. Women who had their photographs taken in the style of bonnet worn fifteen years ago must feel like laughing at themselves now. Even jewelry has its effect, as the picture of a woman that I saw the other day very plainly showed. She had on an old-fashioned set of coral earrings, bracelets, pin and everything that used to belong to the 'set.' She was disfigured by these ornaments. Nobody would have thought of paying any attention to her face, as the coral jewelry absorbed all the attention of the spectator. It is for such reasons as this that I always tell women who want to continue satisfied with their pictures that they should have only the head and shoulders taken, and drape them with a lace scarf or something else that might have belonged to any time or period and is not going to look absurdly out of fashion after a year or two. Extremely simple dress sometimes may accomplish the same purpose. But the light draping is always more certain. I can remember when women had a passion for being photographed in snowstorms. The heavier the storm the more they liked it, and the more closely they clutched the fur muffs they always carried in these pictures. It is only necessary to look at one of them now to realize how mistaken all such attempts at eccentric pictures are."

Utilizing Fogged or Exposed Plates—It often happens that more plates are exposed than there is any occasion to develop, owing to the fact that those first developed have proved satisfactory. Such plates, and any plates that have been inadvertently exposed to sufficient light to fog them, may be made use of in reproducing negatives or transparencies, but the reproductions obtained by the following method (Photographic Industrie, December 27, 1905, p 1255) are laterly reversed, the right hand becoming left. The plates are soaked for five minutes in a 2 per cent. solution of potassium bichromate, and set up to dry, these operations being conducted in a well-lighted dark-room, such a lighting as serves for carbon printing work being satisfactory. The dried plates are exposed in the printing frame under the subjects to be reproduced, until all details are visible in pale violet, the exposure being about the same as is required for ordinary printing-out paper. Development is in an ordinary hydro-quinone developer, well restrained. The visible image first develops, then the plate blackens all over, and, finally, a brilliant reversed image appears.

PORTRAIT GROUP

A. T. Barraud, Partridge Studio, Brookline, Mass.

CHILD PORTRAITURE. No. I.

Otto Boyé, San Francisco.

CHILD PORTRAITURE. No. 11.

Otto Boye. San Francisco.

CHILD PORTRAITURE. No. III.

A. T. Barraud, Partridge Studio, Brookline, Mass.

CHILD PORTRAITURE. No. IV.

A. T. Barraud, Partridge Studio, Brookline, Mass.

CHILD PORTRAITURE. No. V.

A. T. Barraud, Partridge Studio, Brookline, Mass.

CHILD PORTRAITURE. No. VI.

A. T. Barraud, Partridge Studio, Brookline, Mass.

CHILD PORTRAITURE. No. VII.

A. T. Barraud, Partridge Studio, Brookline, Mass.

SMALL SITTERS.

BY ROBERT MELVILLE.

In no branch of photography, probably, has there been a greater advance during the past ten or fifteen years than in the portrayal of children, and in no branch is there a wider scope for further improvement in the future. When we look at the average run of child portraiture of twenty years ago, we cannot forbear shaking our heads and pitying the poor little children who were then brought before the camera. It must have been an ordeal to a restless child to be carried off to the studio, and there, by threats or blandishments, to be moulded into some stiff or orthodox pose, which pose had to be rigorously kept for untold seconds under threats of dire punishment. I wonder how much photographers have lost through their wrong handling of children; many of the little people must have retained anything but pleasant recollections of the studio, and so have tended to avoid it when they arrived at years of free choice. If we cannot say that we have changed all this, we can at least say that we are changing it. There are still many photographers and (incredible as it may appear) more parents, who misunderstand children, but there are many who handle the subject sympathetically and make child portraiture one of their leading lines, in addition to a few workers who devote themselves almost entirely to children. The fact has not been sufficiently grasped that child portraiture is both directly and indirectly one of the most profitable branches of the work which can be cultivated; directly because an influx of children into the studio means a greater turnover, and indirectly because the photographer who does good work in this direction pleases the parents, and so attracts them also.

I was recently talking to a photographer whom I had looked upon as a man who had made the portraiture of women his special feature; this might perhaps be said of almost all photographers, but this man has a name outside his own city for his success with his fair sitters. I was surprised when he told me that children brought in nearly fifty per cent of his revenue, and that he attributed his success with women primarily to his success in children's work. The old mistake was in treating children as if they were small editions of the grown ups; to cast the child into a grown up pose, or fixed expression is to rid it of all the dainty winsomeness that is associated with child life. The photographer who would make success with small sitters must get rid of all the preconceived conventions, and must develop a special kind of work. By the time we are grown up we are more or less moulded, but the child is plastic, and its plastic individuality speaks in every mood or action.

While the few observant photographers were discovering the possibilities in child portraiture, amateur influence, and especially female amateur influence, was opening the eyes of our customers in the same direction. It is little wonder that the poor photographer has failed in the past when children were brought to him scrubbed and dressed beyond every-day recognition and full of a vague terror of the man they were going to see. The amateurs with their snapshots of unconscious children, at play, obtained pictures which appealed to the parents. Too many parents still bring their children to the studio dressed and subdued, but there are many who ask for (or if they do not ask, will gladly accept) pictures of the unrestrained child.

The cultivation of child photography is not a mere ethical matter; it is a question of bread and butter to the photographer. It has often been said, and with truth, that no one can be a successful

child photographer unless he loves or understands children. Fortunately there are few good Americans who do not come, to a certain extent, within this category, and a tactful sympathy can easily be developed. An appointment is as necessary when dealing with children as with adults, and the time allowance should be generous. The child, if a small one, comes to the studio in a half timid state, and time must be given to let it get familiar with its surroundings and its new acquaintance. One of the greatest difficulties of child photography is the over officious parent; with the best intentions in the world, a parent will often utterly destroy any chance of a good picture. Some of our workers are strong enough to insist upon the companion being kept out of the gallery, and in every case it ought to be impressed upon them that the less they take a hand the better.

The question of toys in a gallery is absolutely an open one; some photographers have toys by the bushel; other scarcely ever use them. Some photographers will often include toys in the child's photograph. Where parents can be persuaded to bring children in soft, unstiffened clothing, they make it easier for the photographer to get pretty pictures; but with his attempts at prettiness he must also try for naturalness, and a child that is always dressed in starch will look like itself when so photographed, and so the problem of unbecoming clothes (from a photographic point of view) is not really a serious one. With our wide range of skylight and bright sky, there is little excuse for giving a prolonged exposure to a child. The ideal condition was reached by the photographer who was left with a bright, definant little morsel of a girl, and who heard her say to her mamma afterwards, "I did not let the man make one picture of me, mamma". In due course, the mother received proofs of a dozen exposures. Work like this is the acme of success in striving after naturalness and unconstraint. There was no posing; there was no request to stand still for "five seconds, please"; the child was caught, and satisfactorily caught, when she least imagined it.

If the photographer obtains good negatives, full of detail, he will probably find that prints on mat or egg-shell surface paper will please parents. This is a hint for those photographers whose work is usually of the highly glossy type. It is no use to expect a mat paper to hide the defects of a poor negative, but judiciously chosen, it will heighten the charm of a good one. Photographers who do a medium class trade perhaps cannot get the higher price which will justify the use of platinum paper, but there are both slow gaslight and bromide papers in a wide range of surface which give results second to none, and which, properly handled, give permanent results; the only objection to bromide paper is that it has been too much used by incompetent, or careless workers.

Many parents are, we know, very conservative, but child portraiture gives scope for a wide choice in trimming and mounting prints. A tasteful panel cut from a 5x7 print, and placed on a specially chosen mount, will give the idea of better style than a print trimmed to conventional size and mounted on a conventional mount.

A USEFUL hint is given in one of the German papers for putting clouds into landscapes by the carbon process. The landscape print should be exposed, developed, fixed, and dried as usual. Then the cloud negative should be printed in carbon, developed and transferred to the landscape or developed in situ on the landscape. This will not, of course, hurt the landscape, then with a camel's hair brush and hot water, any portion of the cloud print which overlaps should be washed away, and if there is any very obstinate piece, it may be easily rubbed away with the finger. It is quite possible if, when finished, the clouds are too heavy, to rub them off and then make a new print of the same on the landscape.

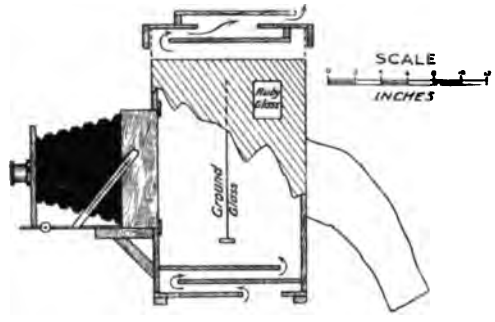
A SIMPLE ENLARGING APPARATUS WITHOUT CONDENSER.

BY FRANK E. HUSON.

I AM thinking that it is far too often asserted that perfectly satisfactory enlarging by artificial light cannot be done without a condenser, which, if one wishes to enlarge from fair size negatives, means considerable expense. I propose to explain a method which I have adopted for obtaining enlargements with the aid of magnesium ribbon as an illuminant. At a cost of under two shillings I constructed a lamp with which prints may be obtained as satisfactory as those made by day or any other light.

Briefly, my contrivance consists of a large box made with light traps top and bottom a provision for a stand camera to be temporarily fitted one end and sleeve and inspection window of ruby glass so that magnesium ribbon may be burned behind a piece of ground glass.

Obtain one or two sugar or similar boxes from the grocer's, selecting those which give the widest and stoutest boards; for it is important that our enlarger should be heavy, to stand firmly when in use and to support the weight of the camera on one end. For a one-half or one-quarter plate enlarger a piece of ground glass about twelve inches square will be required. To make the explanation more simple I will give sizes of my enlarger which was made for use with a half-plate camera although up till now it has not been used for enlarging other than quarter-plates. First cut out back and front, eighteen inches high and twelve inches wide; from the front cut a hole corresponding to the size of the camera to be used, and under the hole, in a position where the camera will rest firmly fix a stout narrow shelf. From the back cut a hole six inches in diameter. It is now necessary to build up the sides (making the box twelve inches from back to front), bearing in mind that the inspection window of ruby glass has to be fixed in one, but it is better to cut the hole for this after the woodwork has been fixed together; the position most suitable can then be easily ascertained.



We must now proceed to construct the light-trap bottom; my sketch, I think, will plainly show the plan I adopt, and I would caution those who consider that a three-leaf trap is going too far to be wise in time, or they will find to their cost, when the apparatus is finished, that magnesium light wants different treatment in trapping to a dark-room lamp. A bottom can be fixed, with a hole about three inches across, nearly the whole width of the box and near the back. Then two dummy bottoms, extending nearly across in opposite directions, can be fitted, being firmly nailed to three sides, the fourth and opposite end being left open. Four pieces of wood to act as feet must be fitted to the bottom corners.

For the top, which is removable, a piece of wood must be edged so that it will fit tightly over; a hole should be cut in the centre, and a light trap fitted in a similar manner to the bottom, except in this case, instead of fixing to the box itself

a frame of wood on three sides must be attached before the cover is fixed, so as to give an air exit on one side only, which in this case must be at the back. Grooves should now be nailed inside for the insertion of the ground glass, six inches from the front. A piece of felt should be nailed round the camera aperture to secure a perfect fit and prevent egress of light. The hole having been cut for the ruby glass about two by three inches, and the glass fitted into position with glued strips of tape, all the joints in woodwork should be covered inside and out with brown paper. If the wood is rough, a covering of brown paper all over outside will greatly improve the appearance. It now only remains to affix a sleeve, made from an old focussing cloth to the aperture at the back, and to drive a nail in a convenient position inside for the magnesium ribbon to hang on, when the thing is complete.

For focussing, the ground glass should be removed and a small lamp inserted, with which it will be quite easy to focus. When all is ready remove the lamp, insert ground glass and a piece of lighted candle, hang the ribbon on the nail, and close the lid. The paper having been fixed on the easel, one arm is inserted in the sleeve, and, holding a small pair of pliers, the ribbon is picked up, lit by the candle, and waved about as evenly as possible behind the ground glass, the whole being carried on by inspection through the ruby window.

As regards exposure, a thin negative, enlarging from one-quarter plate to ten by eight with F/8 and Barnet bromide, twelve inches of ribbon is sufficient, which, by the way, should be curled into a spiral, as it is much easier to manage in this form.

To anyone who does not possess an enlarging lantern, I would say give this method a trial; if you carry it out as I have outlined above, you should be successful.—*Amateur Photographer.*

CARBON PRINTING FOR PROFESSIONALS.

BY A PRACTICAL PRINTER.

(Continued from page 130)

Materials and Equipment.

It has been claimed that the carbon process is dangerous through the poisonous properties of bichromate of potash used to sensitize the tissue, but I can say, after many years intimate acquaintance with the process, that I have never had a touch of bichromate poisoning. If my fingers were cut or sore, I have used rubber gloves occasionally while sensitizing, but otherwise I have never taken any precautions whatever, so if one covers cuts or sores and carries none of the bichromate to the mouth, I should judge he might live to an unheard of age ere he succumbed to bichromate poisoning. If one could devote a room to carbon work after a fair trial on a small scale, I would suggest an ample sink be provided and the means of procuring hot water be close at hand. A large, well ventilated closet or box would be of service for drying the tissue, though that can be dispensed with. Such a box, however, is capable of being kept at a temperature which will dry the tissue in a given time in any weather, and it also keeps out dust, which is so apt to be flying about. The tissue while wet is very insensitive and could be dried in a dimly lighted room very conveniently if necessary. It is well to sensitize at night or toward the end of each day, so as to be ready with fresh paper each day; and if this plan is adopted one need not be particular about a closet to hang it in, though it is, nevertheless, very handy and is convenient to keep the stock in previous to use.

I should advise orange curtains for the windows and that the cutting table be in the darkest portion of the room. Beyond a stock of glasses to transfer from, racks to lean the prints on, a chest of drawers to keep various grades of paper in, and some tables, weights and a few chemical jars, the furniture of the room need receive no further attention. There should be a plentiful hot water supply, for water is the chief factor in the production of carbons, and if there be plenty of light racks to lay prints upon it will be a good thing, as one will soon find out in this work. Having the trays and sink *large* will be no mistake either, as one often wants to develop a considerable number of prints at a time. Wood trays with a plug in the bottom, so that the water can be let off into the sink at any time without tipping them at all, are as good as any, and they may as well be made to fit right over the sink. Trays six or eight inches deep and 20 x 26 at the sides are of a very convenient size, and two will be more convenient than one. Many use tanks the size of the plate the transfer is made from to develop the print. They are exceedingly good, and perhaps aid in developing more rapidly than is the case when the plate lies flat. I should say that for transfer from plates, tanks are best, but for transfer from paper, trays are necessary, so that one must have the trays anyway and can do as he sees fit about the tanks. If tanks are used, be sure the sink is not too high, else it will be difficult to work in them at the sink.

The material required will be about as follows: A roll of carbon tissue, some ground opal glass, bichromate of potash, ammonia, flexible support, transfer paper, waxing solution, and printing frames containing a glass which has a black border all around. Lantern slide binder is excellent for safe-edging the glass.

Carbon printing is done in two ways, single and double transfer. If single is used, either a film negative or a stripped one should be used, for otherwise the picture would be reversed and what should be on the right will be on the left, and the left on the right. By printing through reversed films we correct that and save one transfer. However, as single transfer is but little employed, I presume the majority of workers prefer the two transfers or double transfer to the trouble of stripping their negatives. When I have a goodly number to do, I find it worth while to strip my negative and print from the reverse side. This is accomplished by soaking the negative in a weak solution of formalin for half an hour, drying and then varnishing with a heavy varnish of liquid celluloid, and when this is dry revarnishing. Then when dry by cutting around the edge a corner can be raised and the whole thing peeled off. The celluloid varnish may be bought ready mixed or may be made by dissolving celluloid films with the emulsion cleaned off in acetone. For the sake of completeness and since many of the operations in single and double transfer work are identical, let us first take up single transfer.

We shall first have to make the developer, which is very simply accomplished by dissolving three ounces of bichromate of potash in one hundred ounces of water for warm weather or five ounces of bichromate in the same amount of water for winter work. Test this solution with the hydrometer and keep it at the same strength at all times. To this solution add just enough strong ammonia to render the bath faintly alkaline. An acid bath affords tough, leathery paper, hard to manage and often very nearly insoluble, whilst an alkaline bath gives paper that works sweetly, develops readily and remains good several days in summer and still longer in winter. I have tried many, many baths for sensitizing, and can honestly say that no one could want a better working one than just a plain 3 to 5 per cent. bath slightly alkaline. This bath I like to use at a temperature of 50° Fahr., and find no trouble in keeping it at about that by setting the sensitizing tray on cracked ice in summer and using in a very

slightly (if any) heated room in winter.

The tissue comes in rolls 30 inches wide and 12 feet long. It is not always easy to unroll if dry, and if at all dry when received should be laid in a rather damp place a day or so before cutting up. I think it is well to cut an entire roll up into large sheets at once and keep the sheets between boards under slight pressure. Many prefer to keep the rolls in a tight box, in which a damp sponge is placed often enough to insure the proper limpness when unrolling. Whichever is preferred can be adopted, and there will be no difference. If sheets are cut, see that they are of a size that will afterward cut up to advantage without loss. Sheets as large as 20 x 26 can be handled easily, and I usually sensitize that size, though often when only a little of one color is needed I sensitize as small sheets as 8 x 10.

Manipulation.

To Sensitize. — Pour enough of the sensitizer into a tray of suitable size to fill it at least an inch deep (large trays should contain as much as three inches for comfortable work) and slide a sheet under the surface, face up if possible. If it has a tendency to curl, sensitize it face down, but it is better to have it in such condition as will permit of immersing the sheet face up, so that all air bubbles may be at once detected and broken with a glass rod. The time given by all standard authorities is *until perfectly limp*, and that is a good rule to go by. If about four sheets are immersed one after the other, the first one in will be just about ready after placing the fourth one in the bath. It usually takes a matter of three to four minutes to sensitize it, and in my practice I find that limpness is the best test. All should be given the same time, as we print by actinometer, and once we know how many tints to give a negative we are absolutely certain of all the rest so long as the paper is of equal sensitiveness. It has been claimed that paper left in longer than usual was better for certain negatives. It is certainly *faster*, but, as that is detrimental rather than beneficial, I advise all to adhere to the rule and sensitize until the paper lies limp and flat, and *no longer*.

The belief that sensitizing in a warm bath for thin negatives was productive of better gradation has had its day,—the only difference is that it takes longer to print. I cannot find any better or worse rendering of half-tones on paper sensitized on 3, 5 and 7 per cent. baths. The 3 per cent. seems to be best in summer, the 5 per cent. in winter, and if the bath be constantly kept at this strength and the paper sensitized only till flat and limp, one will be certain of best results. After sensitizing the paper it is well to lay the sheets out on a large plate of glass, face down, and squeeze off all surplus sensitizer. For small sheets ferrotype plates are excellent, as the paper can be left on them to dry and will be found smooth and flat when dry. Larger sheets must be hung up to dry, just as albumen paper used to be after floating. One cannot always control the rapidity or slowness of drying, and if the bath be kept alkaline and the same strength, I do not lay much stress upon the length of time the paper dries in. Many have held the opinion (as I myself once did) that too long or too short drying had various effects upon the sensitized paper, but I can find no difference between paper dried in a few hours and that which takes a whole day; so I have come to the conclusion that, after all, the time it takes to dry in makes no difference with the paper.

To Print.

Carbon tissue is nothing but gelatine and pigment. After soaking it in the bichromate the gelatine becomes insoluble wherever the light touches it. Printing, then, is merely turning the gelatine containing colored pigment into an insoluble portion under all parts of the negative that the light strikes through. It is, therefore, not a printing-out process. We cannot judge of the depth of printing by examining it as we could P.

O. P., and herein lies one of the chief fancied difficulties in carbon printing. "How can you *guess* the exposure?" so many ask me. I *don't* guess at my carbon printing. I know to a dot how long to print it, and can turn out ten thousand of exactly the same depth. This is done mechanically with an actinometer, each print having a measured quantity of light which once established is constant, and rain or shine, hot or cold, that tint number on the corner of the negative insures a correct print every time; there is no guess work whatever.

Actinometers with complete instructions can be had of dealers in carbon materials—Johnson's is a good one—or one can be made easily. I use one I made by pasting ten strips of tissue on a 4 x 5 glass, each strip being a half inch shorter than the one first cut, and numbering each strip from 1 to 10. The carbon tissue I find to be about the same sensitiveness as solio P. O. P. (I can easily make it so by sensitizing in a bath of just such a per cent. as will produce that exact result), near enough anyway, as there is quite a little latitude in carbon printing; and if I print a small bit of solio under the negative till it is just proof deep I am pretty sure of having the right time,—so putting a bit of solio in the frame and a long strip in the 4 x 5 frame containing the graded tissue paper (the actinometer), I place both out in the same light and bring both in when I wish to examine the progress of my print. When my carbon negative is just proof deep, I open the actinometer and note the last tint upon which the number has printed. Say it is 7. I mark 7 on the corner of my carbon negative, and always in future know that seven tints will be exactly correct.

After a month's practice no one thinks of testing a negative any more than he would think twice about what exposure to give a plate on an average day. We take up a negative, look through it and say at a glance "six tints," or seven, or whatever it may require, and we know it will be right. All we have to do is to fill the frames, chalk the tint number on the edge, and put them all out with the actinometer, taking them in as their indicated tint is reached on that most useful implement.

To insure the adherence of the edges and prevent frilling, the safe edge is always used. Carbon workers generally edge each negative, but where a cut-out is not used it is better to have the glass in each frame edged with lantern binder, which will, it can readily be seen, obviate the necessity of safe-edging each negative. Each negative should be marked in one corner with the tint number found to be correct, so that at any time an exact duplicate of former prints may be made without going to the trouble of making a test.

(To be continued.)

POST CARD NEGATIVES,

BY JOHN P. GLOVER.

I HAVE found it very convenient in the many branches of photographic and process work one finds oneself grappling with constantly, to have at hand a good transparency of useful negatives, as in this case one can at short notice make new negatives, large or small, correct or reversed, at will. Thus I used several rather thin pyro-developed transparencies, reduced and masked to postcard size, to obtain reversed negatives for Sinop plates, and it will be sufficient to say that for this process it is only necessary to make the transparency and secondary negative by means of full exposure, as a thin detailed negative, without fog or stain, is what is desired.

Being asked for photo cards (*e.g.*, glazed P. O. P. post-cards) from the same views, I was confronted both by

the impossibility of including the whole of a half-plate view on a post-card; the necessity of masking and titling; and, finally, by the impossible slowness of printing silver cards from an ordinary negative. All these difficulties are overcome by the following method, which suggested itself from the use of the masked transparency made for the Sinop reversed negatives. I now print one hundred P. O. P. post-cards from ten frames in one hour, in full sunlight; and ten frames are as many as can be manipulated, keeping the printer constantly in quick movement.

To our method. The original negative is placed in the enlarging camera, focussed when reduced to post-card size, and a half-plate laid down after closing the shutter. A mask cut out of black paper, any shape desired, is now laid over the plate, and the exposure made. I use daylight as the luminant, and give an exposure of four to eight seconds on an orthochromatic plate, with stop *f*/11, at five o'clock in the afternoon. It is essential to place a black paper backing behind the plate. Friend Pyro-Soda does the rest, until the rather thin image almost disappears in the darkness of over-development. The resulting positive should appear very weak by transmitted daylight, but clear and defined when viewed against the white ceiling of the room.

When dry, the transparency is titled (not reversed lettering) with black process ink by means of a fine mapping pen. Where the foreground is light enough, it is better to put the title on the picture.

It is now obvious that a correct or reversed negative may be obtained at will by changing the position of the transparency in the enlarging camera, and I need only say that by this means a reversed negative perfectly suitable for the Sinop process may be obtained.

For silver printing, the transparency is now reproduced exactly the same size, on an ordinary plate, giving about the same exposure under the same conditions as above. But the result will be observed to be by no means similar, for the negative will develop up more strongly, and first the masking will show *through* the plate, and then the high-lights will quickly appear. The development should be stopped while the shadows are still white emulsion on the film side of the plate, care being taken only that the shadow detail is slightly developed thereon. When fixed in an acid fixing bath, the negative will be of a ghostly thinness, and should appear black and clear against the ceiling.

When dry, a post-card is carefully adjusted for the margins, and a pencil run round the card to give a guide mark for placing the post-cards. Through such a negative the print may be seen quickly to redden in full sunlight.—*Penrose Annual, 1905-6.*

HINTS ON BROMIDE.

BROMIDES must not be dried by heat unless previously hardened in formaline, 1 oz; water, 30 oz.

To prevent blisters showing on a print, rub a sheet of ground-glass with French chalk, rub off, squeegee the print down to the glass and strip when dry.

A FINAL bath of—Thiocarbamide, 90 grs.; alum, 90 grs.; citric acid, 22 grs.; water, 10 oz., adds brilliance to bromide prints by clearing the whites.

YELLOWNESS of the whites may result from imperfect fixing or use of exhausted fixing bath, or one which is discolored by developer contamination.

A VIGOROUS print may be obtained from a flat negative by normal exposure and over-development. After fixing and washing, reduce in: Potass. iodide, 30 grs.; water, 10 oz.; iodine, 5 grs. Refix in clean hypo bath and wash.

AN alternative method of intesifying prints weak from under-development is: Bleach in copper sulphate, 100 grs.; bromide of potash, 100 grs.; water, 10 ozs.; and develop in 10 per cent. nitrate of silver solution, 50 minims; water, 3 ozs.—*Photo. News.*

COLOR PHOTOGRAPHY.

Tri-color Work with a Single-exposure Camera.

EDWIN T. BUTLER.

COLOR photography is now an accomplished fact. The difficulties in securing results are still considerable, but when secured there can be no question that the results recompense for the extra trouble involved. Color prints are now obtainable both as transparencies and as prints on prepared paper. Transparencies offer the most tempting field to the worker in three-color photography.

By a convention, prints on paper are most in demand by the public, but to the lover of color full satisfaction is only to be obtained in transparency work. No medium of artistic representation has ever offered such rich color representation as is to be seen in dyed gelatine transparencies.

In oil painting the high-lights are frequently loaded with body color in order to catch the light, and by this device the effect of brilliancy and sparkle is secured. While, on the other hand, the range in shadow is increased by transparent glazing permitting of the rich and subtle detail of half tone and deep shade.

Now transparencies, in a somewhat similar manner, by a wider range of light and shade lend themselves to the representation of even richer effects. A print on paper is shown by the light reflected from the white ground, and transmitted through the overlaying color. And this reflected light is necessarily weaker and of narrower range than that of transmitted light.

Transparencies transmit the light directly, the stronger light revealing details in a depth of shadow many times stronger than a tint which would appear black on a white ground. It is for this reason that three-color photography is seen at its best in the superimposed triple films printed, and dyed in colors, each transmitting a band equivalent to two-thirds of the spectrum. This medium of expression is naturally adapted to the art, and one which in its own domain has added an unique feature to artistic representation. My own work in color photography has been directed chiefly to the production of an instrument which at one exposure should yield triple negatives, each exclusively registering one of the three elementary colors of the spectrum.

A One-exposure Camera.

All the examples of my work shown in the exhibition have been taken with a camera I designed with this object (see the *B. J. Almanac,* 1906, page 856). Through a single lens the red, blue and green negatives are simultaneously exposed, the varying ratios being corrected in intensity, so that the exposure for each negative is the same in time.

The results exhibited are from negatives taken either by my quarter-plate or half-plate camera.

The quarter-plate camera is sufficiently compact to carry about on ordinary photographic excursions, and I have not infrequently in the course of a walk been struck by a subject, unpacked the camera and stand, exposed the plates, repacked, and continued my journey in from five to ten minutes from the time I was arrested by the view.

Exposures.

For portraits and evenly-lighted landscapes with strong foregrounds, the time of exposure should be equal to that required to change P.O.P. to the standard tint.

For ordinary landscapes I expose half actinometer time.

For brilliantly-lighted landscapes one-fourth and one-sixth of actinometer time, and as short as one second for afternoon sky and cloud effects.

I have secured fairly satisfactory results of sea and cloud in one-quarter of a second.

It is unnecessary to consider the ratios of exposure when using my camera, the screens and their position in the camera regulate the comparative degree of light each plate is to receive.

I find the negatives come out with a very fair degree of regularity when the time of exposure lies between, say, 10 and 15 seconds and 3 or 4 minutes, although very longer exposures are practicable.

It is as easy and simple with a single-exposure tri-color camera to take views as with the ordinary snapshot, but after this the difficulties commence.

Developing the Plates.

Development of the plates is a process identical with that of ordinary development for black and white, but in so far as three negatives have to be produced for one subject, and each has to bear a correct ratio to the others, certain details have to be observed. Each of the three negatives should as nearly as possible exhibit in the highest light, white, the same degree of density, and the range of density from white light to deep shadow should be similar in each. The negative taken through the red screen, as a matter of fact, is usually steeper than those taken through the green and blue screens. The best results are secured when the period of development for each of the three negatives in the same developer is constant, but when exposures have been made under anomalous and difficult conditions a little latitude for approximate correction is permitted by varying the relative time of development. I generally find two or three minutes' development sufficient with metol or edinol developer.

Printing the Monochromes on Dyed Gelatine Films.

Having obtained promising negatives, I have found it convenient to gauge their densities, and for this purpose use a density gauge, by means of which the greatest density (high light) of each negative is matched to a standard. The numerical equivalent is noted on each negative, and this is an index to the actinometer time required in exposing the positive. For printing the positives, thin glass plates coated with gelatine and subsequently dyed to a standard in an appropriate aniline dye are used.

They are sensitized by immersion for three minutes in a 4 per cent. solution of potassium bichromate, and dried quickly in the dark. The color of each positive plate is complementary to the taking colors of its respective negative.

The negative taken through the red screen is printed on blue-stained gelatine-coated thin glass, though greater sharpness is given if a black tone positive be converted to a ferricyanide blue. This is effected by bleaching in potassium ferricyanide and treating the bleached image with ferric chloride.

The negative taken through the green screen is printed on pink-stained gelatine, while the negative taken through the blue screen is printed on yellow-stained gelatine, with which the respective plates are coated.

Each positive should be printed so that the gradient is the same in each. The positive plates are placed with the back next to the face of the negative, and printed through the back of the glass. It is advisable to expose the printing frames in short tunnels to cut off side light.

If prints are made in direct sunlight, the face of the plates should be at right angles to the axis of light. In developing the prints, they should be washed for a few minutes in cold water to dissolve out the sensitizer. They should then be allowed to remain without rocking in hot water about 100 to 120 degrees, which dissolves the unaltered gel-

atine, and leaves the image in color. When sufficiently developed they are set in cold water.

Having made sure that the relative strength of color on each is properly adjusted to the other two by re-dyeing or washing out, when it is necessary, the elements are allowed to dry, and are then put together.

I prefer glass plates to films, because I find them easier to manipulate at each stage of the process, namely, in staining, sensitizing, printing, developing, and registering. The slide or transparency is made by simply putting the blue and red prints face to face, and the yellow print with the face towards the back of the red, the whole being held together temporarily with clips until the corners are fixed with adhesive and the edges bound.

To get all three elements in intimate contact, the yellow may be transferred to the blue print and the red placed with its face to the face of the blue-yellow positive. Some of the prints exhibited are made in this manner.

It is not necessary to balsam the elements together.

The method of printing I have adopted is one which I have selected after working most of the methods currently in use. For the reasons given above, I prefer transparencies to prints on prepared paper, but, as is well illustrated in the exhibition, exquisite results are yielded by the latter method. It is probable that a wise eclecticism will in the end yield the most facile and correct results.

My own experience is that whichever method be adopted, difficulties are experienced. I have thought there was a gain in using gelatine-coated plates from which a sensitive silver salt was omitted, since there is a saving and simplification in the omitted need for its removal. If the silver salt, which merely serves the purpose of following the development, be omitted, it is needful to substitute some reagent which shall serve this purpose, and the natural agent which presents itself is the dye in which the print is finished.

Certainly in my most successful endeavors this method has yielded results in the most direct manner. Each element dyed to a standard, and properly exposed behind correct negatives, has under correct exposure and development yielded satisfactory results without either washing out or re-dying.

Such an achievement, could it be insured with anything approaching invariability, would be both simple and direct, but the varying conditions under which color photography is practiced necessarily in the present stage of the art leaves mechanical accuracy and facility a goal still greatly to be desired. —*British Journal of Photography.*

THE WORKING OF DEVELOPMENT PAPERS.

BY E. A. TURNER.

EACH photographic printing process has its own particular details which must be mastered before the photographer can produce good results with certainty. These important details are, in general, the things which most easily affect the process—the things to which the process is most sensitive. In the growing of delicate plants in a greenhouse the most important details are temperature and moisture—it is to these that the growing plant is most sensitive. In the working of a photographic paper there are details, chemical and mechanical, which have very strong effects on the quality of the picture produced. In working developing papers the quality of the print depends first upon the quality of the developing paper on which it is made. The papers on the market vary considerably in their qualities, but the mode of working different papers is, in general, the same.

The first consideration is the developer. Metol-hydrochinon is the developer most generally used, and it probably gives better results, for general work, than any other developer.

The usual formula is:

Water	10 ounces
Metol	7 grains
Hydrochinon	30 grains
Sulphite soda, dry	110 grains
Carbonate soda, dry	200 grains
Potassium bromide, a few drops.	

This formula makes a strong developer and is generally used full strength for the slow contrasty working varieties of paper. It is usually diluted with an equal volume of water for developing the faster, softer-working varieties. Some workers develop both kinds of paper in a single developer which may be either the strong developer, or a weaker developer made by diluting two parts of the strong solution with one part of water.

The chemicals used are of considerable importance. Metol and hydrochinon usually come to us in a form that is sufficiently pure for all photographic uses so that we need not make further mention of them. The quality of the sulphite is very important, as only by using good sulphite can pure black tones be obtained on developing paper. The carbonate of soda should also be pure, but there is little difficulty in securing carbonate that is of sufficient purity. Both the sulphite and carbonate should be "anhydrous" for the weights given to be correct. Crystal chemicals contain considerable water and hence are of lower strength than the anhydrous articles. The potassium bromide is employed as a ten per cent. solution, and the quantity required varies with the brand of paper. Some workers change the formula by using more metol and less hydrochinon for producing softer prints without changing the grade of paper. The hydrochinon may even be left out entirely by increasing the amount of metol in the formula to thirty grains for the softest effects. Some papers will produce better prints by reducing the amount of carbonate of soda in the formula to 150 grains or even to 125 grains.

The amount of bromide required in the developer depends upon the grade of paper and the tone desired in the finished print. The bromide is put into the developer to keep the high-lights of the print clear, that is, to keep unexposed portions of the print from fogging over in the developer. If a piece of unexposed paper is immersed in a developer without bromide it will speedily become gray all over. We must add to the developer sufficient bromide to keep the whites of the print perfectly white during the time required for developing the prints. The amount can be readily determined by adding a little bromide at a time and testing with a slip of unexposed paper, until the slip will remain perfectly clear for thirty seconds' immersion in the developer. This developer will then (on most papers) give prints of a blue-black tone with clear high-lights. If, now, we add a little more bromide, we will secure prints of pure black tone, and if still more bromide is added the tone will be a greenish, brownish black. The pure black tone is most pleasing for the majority of subjects, but the blue-black is often preferred for seascapes and pictures containing considerable evergreen foliage. The greenish-black is also liked by some workers for particular effects.

In order that the paper and developer may work in this way it is very important that the developer be clear, colorless and undeteriorated—it is best freshly prepared. Also, most of the developing papers on the market will only work in this way when fairly fresh. After they are several months old, a very large amount of bromide is required to keep the whites clear, and for this reason pure black or blue-black tones cannot be obtained on old paper. There are, however, a few makes of paper which will keep in a perfect condition for a year or more.

The time of development is also important. Of course, we must develop the

print until it is dark enough, but we can change the time of development by changing the exposure. Most papers give the best results by exposing so that the print will develop in from twenty to thirty seconds. In general, the contrasty papers develop quicker and the soft papers require slower development for good results. If development is too quick the print will be flat and lacking in brilliancy. It will also not have the pure tone that is secured by longer development. If exposure is too short and development too long (forced development) the whites of the print will be veiled over, the high-lights will be muddy and flat. The correct time of development for best results will depend upon the strength of the developer, also somewhat upon its temperature, and upon the amount of bromide it contains. The greater the amount of bromide the longer the time of development. By this, we do not mean that each print will be developed by the watch, exactly so many seconds, but that the exposure will be so timed that development will take place in about that number of seconds. The print will be developed in the usual way, until it appears dark enough. The exposure varying with the nature of the negative.

(To be continued.)

A METHOD FOR THE PRODUCTION OF PHOTOGRAPHS ON SILK.*

BY FRANK J. FARRELL, M.SC.

In 1896 a series of experiments was made by Mr. Ernest Bentz and myself on a diazotisation of the wool fibre, the results of which were published in a short paper read before the Manchester Section of the Society of Chemical Industry, and printed in the journal of that society.

The object of these experiments was to determine whether the dyeing properties of the wool fibre depended in any degree on the assumed presence of an amido or imido group in the molecular complex of the fibre.

In order to accomplish this it was necessary to make dyeing experiments with wool in its unchanged condition, and wool from which the amido or imido group had been removed. The removal of the amido or imido group was effected by the well-known method of diazotising (whereby the wool was rendered deep yellow in color) and boiling. It became necessary to prove in the course of these experiments that the immersion of the wool fibre in a solution of nitrous acid was actually converted into a diazo (or diazonium compound). This was readily proved by experiments showing that combinations with alkaline, aromatic hydroxy compounds could be effected, colored bodies being produced, the color varying with the hydroxy compound employed from yellow to red or brown. For example, combined with beta naphthol a bright red shade is produced; with resorcinol a golden orange.

During the conduct of these experiments it was found that the bright yellow color of the diazotised wool fibre rapidly changes under the influence of sunlight, becoming very pale buff or deep cream in shade. When this change has occurred it is no longer capable of combining with alkaline hydroxy compounds.

The sensibility of the diazo compound to light suggested the possibility of applying the process photographically, and experiments showed that prints could be obtained. Owing, however, to the loose and fibrous surface of all wool fabrics, the prints produced were more or less blurred and indistinct, most of the fine detail being lost. The process was there-

*A paper read before the Society of Dyers and Colorists.

fore only applicable in certain classes of subjects where the result depended more upon the broad general effect than upon the sharpness of the finer details.

This defect led to a series of experiments with the silk fibre, which was also assumed to contain an amido or imido group in its molecular complex. It was found that the silk fibre by immersion in cold dilute solutions of nitrous acid for several hours was rendered deep yellow in color, as in the case of wool, and that the color so produced could be converted into colored bodies by combination with aromatic hydroxy compounds in alkaline solutions. The yellow body, which I will call the silk diazo compound, is like the wool diazo compound, very sensitive to light. As silk fabrics can be obtained with a beautiful even surface—for example, satin—it seemed probable that a successful photographic process could be based on the sensitiveness to light of the silk diazo compound.

Diazotizing Silk.

In converting silk into the diazo compound, the fabric is first carefully washed, to remove finishing matters and any grease or soap left in the silk after the boiling off process. After rinsing well in water, it is immersed in a solution of nitrous acid made by dissolving ½ per cent. sodium nitrite in cold water and adding 1 per cent. of sulphuric or hydrochloric acid. The operation should take place in the dark or in a room dimly lighted by artificial light. The silk remains in the nitrous acid for about six hours, and should be moved about from time to time to prevent the accumulation of gases under the folds of the fabric, which might lift it above the surface of the liquid and lead to the production of uneven results. The silk is now well rinsed in water, and after wringing or hydro-extracting, is dried at a moderate temperature under tension in the dark. The object of drying under tension is to produce an even surface ready for the printing process. The diazotized silk thus dried will keep in the dark unchanged for several months.

The Printing Process.

The portions of the fabric which are exposed to light during the printing process are changed from the diazo compound into a body which is incapable of forming colored compounds with alkaline solutions of hydroxy compounds, the portions not affected by light remaining unchanged and still capable of combining with hydroxy compounds. Hence it is obvious that printing must take place beneath a photographic positive and not beneath a negative, as in photographic processes depending upon silver compounds.

After exposing under the photographic positive the silk is ready for the process of development. This is effected in dilute solutions of aromatic hydroxy compounds in caustic soda or caustic potash, the color produced depending upon the hydroxy compound employed.

It is found that the best results are obtained when the developing solution is warm, the temperature generally employed being from 25 degrees to 30 degrees C. Half per cent. solutions of the hydroxy compounds are used in a half per cent. solution of caustic soda or caustic potash. The caustic alkali solution of this strength has little or no action on the silk fibre at 30 degrees C. during the short time the development is carried out—a few minutes.

Red, Brown and Violet Tones.

Development with beta naphthol produces a crimson shade, which, after well washing and finally rinsing in a dilute solution of acetic acid, becomes scarlet.

Alpha naphthol produces a duller and bluer shade than beta naphthol. Development with alkaline resorcinol produces a bright red, which, after washing and finally rinsing in dilute acetic acid, becomes golden orange. Other hydroxy compounds may be employed, the shades produced varying from yellow to red and brown. The colors produced in this manner may be considerably modified

or altered by immersion in cold or slightly warm dilute solutions of certain metallic salts, *e. g.*, iron, nickel, copper, chromium, cobalt, etc.

The golden orange produced by development with resorcinol is converted by dilute solutions of ferrous sulphate into a very dark brown by nickel salts into maroon, cobalt salts into red violet, etc. The red obtained from beta naphthol is converted by iron salts into a red brown, and into blue shades of red by nickel and cobalt salts.

Similar results are obtained by treatment with solutions of metallic salts of colors obtained with other developers.

Experiments were next made to determine whether the silk diazo compound would combine with aromatic amido compounds. In cold or slightly warm solutions negative results were obtained, but it was found that at or near the boiling point combination would take place.

With dilute solutions of alpha naphthylamine, at or near the boiling point, a deep violet shade is produced, which, after washing thoroughly in water, changes to orange. This orange shade again changes to violet if treated with mineral acids. That the alpha naphthylamine has combined with the silk diazo compound in a positon in the ring, and not as a diazo amido compound, is readily proved, as the free amido group can be diazotized by immersion for a few minutes in dilute nitrous acid solutions, and combinations effected with cold alkaline solutions of dydroxy compounds.

With resorcinol a deep crimson is produced — a shade of considerable beauty. This shade can be further modified by treatment with solutions of iron, cobalt, nickel, copper and other metallic salts, varying shades of brown and bluish red being produced. Other shades of red are produced by development in alkaline solutions of alpha and beta naphthol, which are further modified by treatment with metallic salts.

The only blue shade I have been able to produce was obtained by the development of the diazotized alpha naphthylamine—silk compound. Combined with amido naphthol di-sulphonic acid H (1, 8, 3, 6) in a slight alkaline solution, a deep greenish blue is produced. Further treated with solutions of ferrous salts, this blue shade is converted into black (or a shade which very nearly approaches black).

Beta naphthylamine may also be employed for development, but the shades produced do not represent the same range of color or brightness as those produced from alpha naphthylamine.

It is of interest to note that of the naphthalene derivatives the best ranges of shades are obtained from beta hydroxy compounds and alpha amido compounds.

An Intermediate Product of the Action of Light.

The silk diazo compound when exposed to light does not appear to change directly to a body incapable of continuing with aromatic hydroxy and amido compounds, but passes through a definite intermediate stage.

By careful observation it is apparent that the yellow diazo compound changes under the influence of the first few seconds' exposure to a pink shade, which then rapidly changes to the cream or buff inactive or undevelopable state.

The pink body produced by intercepting the exposure at the intermediate stage will not combine with aromatic hydroxy or amido compounds, but in the presence of caustic alkalies in dilute solutions gives a brown color which is permanent.

I am of the opinion that the diazo compound first undergoes intra-molecular change, being converted into a nitroso compound, which under the influence of further exposure to light decomposes into what is presumably a hydroxy compound. Thus:—

X.N:N.OH X.NH.NO

X.OH plus N2.

It is the nitroso compound which

yields a brown color when treated with caustic alkalies.

In making comparative experiments with Messrs. Green, Cross and Bevan's Primuline diazotype process I have observed that fabrics dyed with primuline diazotized and exposed to light pass through the same intermediate stage; if the exposure is stopped at this point and the fabric immersed in dilute caustic alkalies, a dark brown color is produced.

It would be of interest to learn whether this observation has also been made by Messrs. Green, Cross and Bevan. Although the results are of no great practical value, this observation can be utilized in the production of photographic prints.

Modified Methods.

Diazotized silk is exposed under a photographic *negative* for a very short time, whereby the exposed portions have been changed to the pink or nitroso stage, the unexposed portions remaining as unchanged diazo compound. Immersion in warm dilute caustic soda or potash produces a brown positive print.

Another method of application is to expose the diazotized silk under a photographic *positive* until the exposed portions are converted to the undevelopable or "hydroxy" stage, the unexposed portions remaining as unchanged diazo compound. A short exposure to light of the whole surface of the fabric converts the diazo portions into the "nitroso" compound. Development in warm dilute caustic alkali yields a brown positive print.

The silk diazo compound is very slightly affected by exposure to artificial light, hence the operations of sensitizing, drying, developing, etc., may be safely carried out in gas light. Prolonged exposure to artificial light, however, converts the sensitive diazo compound to a golden yellow color which is incapable of development with aromatic hydroxy or amido compounds.

The golden yellow color is extremely fast to light, and appears to resemble very closely the color produced on silk by treatment with nitric acid. Samples which I have had exposed to diffused sunlight for several years have changed but slightly.

Having outlined the process, I think it would be of use if I supplied a few suggestions for those who may wish to make experiments in silk diazotypes or seritypes, as I think they should be designated.

Subject.

Dealing first with the subjects which lend themselves to reproduction by the process, it is obvious from the surface of the fabric that subjects depending on very fine detail are not very suitable.

I have found that landscapes depending for the effect on the general scheme of light and shade, and particularly where the contrasts are very marked, give very good results, as the contrasts are always softened to some extent in the reproduction. Water effects and yachting scenes also reproduce admirably; in fact, any broad effect where the slight softening of the contrasts which always takes place does not destroy the balance of the picture.

Positives.

The positives should be developed to keep the high-lights clear and white, and the photographic developer should be selected with this end in view. I have found that the best results are obtained by employing hydroquinone or hydroquinone and metol. Any developer suitable for photo-process work will give very satisfactory positives. It is essential that the positives should be absolutely "sharp" to allow for the softening effect to which I have already referred.

Printing.

The time required for printing depends of course upon the light and the density of the positive.

Some experience with the process must be gained before really satisfactory results are obtained, but an excellent method of determining the time of exposure is to fasten a small piece of the

sensitized silk on to the printing frame and observe when the yellow color of the diazo compound has completely changed to the cream shade of the inactive or undevelopable body. In direct sunlight with a positive of ordinary density, about 20 to 30 seconds is a sufficient time for exposure.

Development.

For the development of prints up to 12x10 a beaker or other vessel having a capacity of 200 c.c. suffices, the silk being moved about during the development with a glass stirring rod. From two to three minutes is usually sufficient to complete the development.

Care must be taken not to have an excess of caustic alkali for two reasons: (1) Injury to the silk fibre may take place. (2) It is sometimes found that portions of the lighter shadows have only been acted upon by the light sufficiently to convert the diazo compound into the nitroso compound. In such cases the half-tones appear as dark browns, rendering the print useless.

After developing the silk should be well washed in water and finally rinsed in a half per cent. solution of acetic acid, to brighten the silk fibres and also the developed colors. The fabric should be dried on a frame of suitable size and finally lightly ironed on the back.

The colors produced by this process are very fast to light, especially those obtained by the treatment of the developed colors with metallic salts.

The dark brown produced by development with resorcinol and subsequent treatment with ferrous sulphate is exceptionally fast, patterns which I have had exposed to direct and diffused sunlight for six or seven years remaining apparently unchanged.

They are also fast to boiling water, and boiling in neutral soap solutions has very little action on many of the colors.

Regarding the application of the process, I think there may be some opening in the realms of decorative art. The possibility of producing the photographs of great fastness to light, washing, etc., in shades to harmonize with the general color scheme of a room, should lead to its adoption for the production of cushion covers, panels, frescoes, etc., and to those who may wish to make experiments in this direction, I may say that the process is not protected, and they are therefore at liberty to apply it in any manner they desire.

To many amateurs, I am afraid the fact that the printing is effected from positives may prove an insuperable difficulty, but to those students of photography who have taken up enlarging and lantern work the process should be of some interest and of some commercial value.

AN APPEAL.

THE following appeal for funds for the erection of a statue to the late Professor Ernst Abbe should meet with a hearty response from every photographer who takes a wide view of his profession. The late Professor Abbe labored long and earnestly on their behalf and to his efforts are due many wonderful qualities of the modern lenses.

We will be glad to receive subscriptions, which will be acknowledged in these columns, or they may be sent direct to the Bausch & Lomb Optical Co.

A little more than a year ago there died in Jena, that world-famous town, Professor Ernst Abbe, who has had no small share in making Jena so well known to the entire civilized world.

At the time of his death, papers and magazines contained full accounts of the life and work of this truly remarkable man, reciting in detail his numerous contributions to science and his successful experiment in organizing an industrial enterprise upon distinctively new lines.

Since that time the feeling that here

was a man whose work has been for the good of mankind and whose memory should be fittingly honored, gathered strength until there was appointed a committee to take charge of soliciting funds for the purpose of erecting in his native town, between the Volkshaus erected by him and the Zeiss Works, a statue as a memorial.

The names of a number of American scientists and business men who had had dealings with the Zeiss Works were included in the committee named. We in America seem very far off from the little German town where the statue to Abbe is to be placed; and one might think it of little account whether we help to erect the statue or not. But this is a unique occasion, as Abbe was a unique man, and most of us who know anything at all about him will consider it a privilege to be able to contribute, be it ever so small a sum, to the statue that is to perpetuate his form to posterity.

The undersigned have for many years had business relations with Professor Abbe through the Carl Zeiss Works. They have, therefore, a strong desire, a desire tinged by personal acquaintance, to see America well represented in this memorial. They believe that many will be glad to avail themselves of the opportunity of giving somthing to show their appreciation of the great work done by Abbe, and in order that such opportunity may not be wanting they have arranged, with the consent of the other members, to act as secretary and treasurer of the American committee to solicit funds for this purpose.

Under date of February 25th the American Miscroscopical Society issued a circular letter appealing to their members to aid in this movement. We would state that we have no desire to interfere in any way with the collections that might be made by the Society, in fact we would urge, since our purpose is only to help increase the fund, that all contributions of members or others interested in the Society be sent direct to them since it is eminently fitting that such an organization should make as good a showing as possible.

We urgently request all others who are interested to send contributions to us, be they large or small, and ask all to assist by giving as much publicity as possible to the scheme, and by endeavoring to arouse interest and enthusiasm in the project.

We shall make personal acknowledgement immediately upon receipt of contributions and shall publish a list of contributors as soon as the total amount is forwarded to Germany.

BAUSCH & LOMB OPTICAL CO.,
Rochester, N. Y.

DEVELOPMENT FOR UNDER-EXPOSURE.

THE photographer who develops films for the amateur has more under-exposures than over-exposures to contend with. The following remarks by "An Old Hand" in *The Amateur Photographer* will prove interesting:

A good many of my set of under-exposures I developed with dilute Pyro Metol, as I say. But certain of them, which I knew to be, on the whole, even more under-exposed than the others, I treated with Glycin. Glycin, as you probably know, is a favorite for stand development. I needn't here enter into the reasons why this is so; nor need I give you a formula, as plenty have appeared in these pages. Anyhow, those extra under-exposed plates I developed with stand development; and next time you have any difficulty in getting detail and softness in snap-shots, I'd like you to try that, too. If there is any detail to be had, you may be sure Glycin, acting slowly, will coax it out. I have carefully compared the negatives I developed with Glycin and those I developed with Pyro Metol, and the Gylcin ones are unmistakably superior. There is a coarseness about the Pyro Metol negatives, a sort of forced look, which is absent in

the Glycin ones. (This sounds vague, but I could show you in a minute what I mean if you were with me in my workroom.) Moreover, the delicacy of the detail, if not the actual quantity of the detail, is greater in the Glycin negatives. Even when the detail in the two types of negatives is about equal, that of the Glycin negative prints more softly and pleasantly—at any rate on P. O. P.—than the grainy detail of the Pyro Metol negatives.

Without a Tank.

"But I haven't a tank suitable for stand development," someone says. Never mind. Although I have a tank, and use it often, I developed these particular negatives in a dish. I made up the Glycin solution of the same strength at which I use it for tank development, only much less of it in all. (My concentrated Glycin needs dilution with eighty times its bulk of water; but the formula varies, and yours may need less water.) Then I put a plate in an ordinary dish, flooded it with the excessively dilute Glycin, set it on one side with a cover over it to keep the light out—and went on with my other work. There you have one of the chief advantages of Glycin. The dish needs no rocking; no attention. Once I had put one of the plates into it, I could leave it and start developing some others with the Pyro Metol in the usual way. My Pyro Metol negatives each took about a quarter of an hour to develop. By the time I had finished four, the Glycin negative was just about done.

Concerning Density.

You have to take a peep at your Glycin negative from time to time, of course—say every quarter of an hour or so—to see how it's progressing. But if you over-develop it, no harm's done; you can easily reduce it. The danger rather is under-development. Glycin behaves somewhat differently to the old-fashioned developers. Detail comes up all over simultaneously, and only slowly gains density. Moreover, a stand-developed negative has a trick of looking denser than it really is, before fixation. But you soon get accustomed to that. Another point: A little sediment is apt to settle on the plate when immersed for very long in its dish of Glycin. Be sure and give a thorough rinse before washing, to clear this off.

PHOTO-RECORD WORK.

THE Century Club of New York had an elabotate "Twelfth Night" festival, the members dressing in historical or fantastic costumes. Desiring to gather together a permanent record of the event, the club commissioned Mr. W. H. Hollinger to make a series of photographs.

We had the pleasure of seeing something like one hundred and fifty of these portraits some days ago, and congratulate both the Century Club and Mr. Hollinger on the splendid results obtained. With the exception of a few groups, the portraits were all full-length figures, made on 8x10 plates. The platinum prints, uniformly mounted and passe-par-tout'd, made the best exhibition of pictorial portraiture we have had the pleasure of seeing. The remarkable feature of the collection was the wonderful evenness of the prints; if we lingered longer over one than another it was a detail in the costume that held our attention.

The prints, gathered together and bound into a book, will make a splendid showing for photography as a permanent and artistic record of passing events.

We wish the collection could be seen by every photographer throughout the country. Opportunities for record work constantly arise in every community, but are more often than not let pass. The average photographer, unfortunately, seems unable to rise to the occasion.

The photographic section of the Hamilton Library Association of Carlisle, Pa. continues to accumulate photographs of a historic character. A beginning was made of the formation of a systematic

collection of photographs of the public school houses of Cumberland County, intended ultimately to include every house of that character in the county.

The "Vol. I, Public School Houses of Cumberland County, Pa.," although hardly in a completed condition, exhibited by request, at the Exposition at St. Louis, was unique of its kind, and received very complimentary notice in the official account of the Exposition, published by the State.

There has also been deposited in the library a volume relating to local history, the historical value of which is much increased by the fullness of the photographic illustration of historic documents.

It is an adress of Rev. Joseph A. Murray, D.D., a former member of the Association, and long its secretary, upon the Presbyterian Churches of Carlisle, with the copious appendices containing transcripts from the original documents in his collection, quoted in the address, and not previously published, photographic facsimilies of all of which, thirty in number, are bound in with the volume placed in the library. As these photographs are direct from the negatives, not half-tones, they bear magnification, and approach in authenticity the originals. It is in its fullness, perhaps, unique as an example of an application of photography, the endorsements and all writing on the documents being given, and includes the autographs of many men and women prominent at an early day in our county.

As the character and possibilities of this work become better understood many accessions may be anticipated, as the subjects to which it is applicable are so varied, as well as numerous.

The little brochure on Photo-Record Work, intended to call attention to it and direct the work, has been of assistance, and, as many photographs are sent unaccompanied by some data that are absolutely necessary to their full historical value, memorandum blanks have been prepared, which will be furnished those who may desire to contribute photographs.

THE INTERNATIONAL CONGRESS OF PHOTOGRAPHY.

THE resolutions adopted by the above Congress at its meeting in July last year have just been published. The following is an abstract:

The standard light is to be the acetylene lamp as devised by M. Fouché, or the Fery-Monpillard lamp (see *B. J. Almanac,* p. 724). Further experiments are to be undertaken to establish the ratio of these with the Violle unit, and it is suggested that a photographic comparison should be made. The unit is to be the quantity of white light falling upon a square centimetre at a distance of one metre from the acetylene lamp, which is equivalent to 1-20 of the Voille unit. This is to be called B. P. M. S. (bouguie photographique-mètre-seconde). The transparency of a deposit, examined by transmission, is the ratio of the quantity of light transmitted to the quantity of light received. Opacity is the inverse of this ratio, and density is the logarithm of the opacity. The unit of density is that which transmits one-tenth of the light received.

The normal duration of development is such that with the density of 7 the densities should be proportional to the logarithms of the quantity of light transmitted by the negative and inversely proportional to the quantity of light received at the moment of exposure. The Congress admit that plates should be tested with the developer recommended by the makers, and recommend that makers should give on the box labels the formula and temperature of the developer.

The sensitiveness of an emulsion should be the quantity of light necessary to obtain the unit of density with normal duration of development. The latitude of an emulsion should be the interval where the densities, with normal development, remain proportional to the logarithms of the quantity of light, and should be expressed by the differences

of the limiting densities. Every emulsion should be designated with its sensitiveness, its latitude, and its fog, the latter being the density obtained with normal development without exposure to light.

Orthochromatic plates should be designated by their maxima and minima of sensitiveness, and by the wave length on the less refrangible side where the sensitiveness practically ends. The sensitiveness to white light and their chromatic sensitiveness should be stated.

Formulæ for color-filters or screens should be given in specific weights of the coloring matter per square centimetre of surface, and the liquid filters should be one centimetre internal thickness. In all cases of organic dyes the names of the makers, the trade names and marks of the dyes should be given.

The Congress suggests that makers of optical glass should come to an "entente" to do away with the confusion now existing in the nomenclature of glasses, and that four groups should be made, or that, if this be not possible, the glasses should be divided into two classes, using the usual notation $v = \frac{D - 1}{F - c}$, and that all glasses with this power above 50 be classed as "crowns," and all others as "flints." Diaphragms are still to be numbered on the $f|x$ solution, but the word "diameter" be substituted for "aperture." Experiments are to be undertaken to prove the loss of light by absorption and reflection, and some attempt should be made to determine a characteristic co-efficient. Shutters are to be marked with their speeds with an error of only 5 per cent.

The Congress recommends that photographic sensitive preparations should be passed by the postal authorities as samples, provided they bear the makers' labels and bands unbroken. Every maker should see that packets of his preparations bear such bands, and the label of a black star on a red ground which is recognized by the Customs authorities. It further suggests that postal authorities should admit photographs and works illustrated by direct photographs on the same terms as any book or magazine illustrated by a photo-mechanical process. Further, that the postal authorities should admit, on the usual terms, postcards illustrated by the photographs mounted thereon. Cinematograph films, enclosed in metal boxes, should be passed by the postal authorities as "samples."

NEWS OF THE CONVENTIONS.

PROFESSIONAL Photographers' Society of New York, at New York, April 5th and 6th; Don C. Scott, Olean, N. Y., Secretary. Ohio-Michigan Photographers' Association, April 18th, 19th and 20th, at Detroit, Mich.; W. F. Van Loo, Toledo, O., Secretary. Photographers' Association of Wisconsin, April 24th, 25th and 26th, at Milwaukee, Wis.; J. M. Bantel, Milwaukee, Wis., Secretary. Photographers' Association of Pennsylvania, May 1st, 2d and 3d, at Washington, D. C.; E. E. Seavy, Newcastle, Pa., Secretary. Photographers' Association of Illinois, May 3d, 4th and 5th, at Springfield, Ill.; J. K. Smiley, Kewanee, Ill., Secretary. Photographers' Association of Iowa, May 8th and 11th, at Des Moines, Ia.; G. E. Fahr, Bonaparte, Ia., Secretary. Nebraska Photographers' Association, May 15th and 18th, Omaha, Neb.; C. J. Fennel, Schuyler, Neb., Secretary. Photographers' Association of Indiana, July 9th to 14th, at Winona Lake, Ind. Kentucky and Tennessee Photographers' Association, July 17th to 20th, at Louisville, Ky. NATIONAL CONVENTION August 7th, 8th, 9th and 10th, at Niagara Falls; Frank W. Medler, Secretary. Photographers' Association of New England, August 21st, 22d and 23d, at Boston, Mass.; L. H. C. Evanoff, Boston, Mass., Secretary.

THE Photographers' Association of Wisconsin have arranged a programme of good things for their Tenth Annual Convention, to be held at Milwaukee,

April 24th, 25th and 26th. Sadikichi Hartmann has been engaged to lecture and criticise the pictures. Many demonstrations are arranged for. The papers to be read are of a practical nature and the discussions that will follow will no doubt be of much interest and usefulness to members attending.

We are advised that the Class Instruction System will be carried out at the Convention of the Indiana Association of Photographers. Mr. W. S. Lively, President of the Southern College of Photography has been appointed Superintendent of Instruction.

NEWS AND NOTES.

A Hint on Development. — Do you flood a plate with water before introducing it to the developer. We should have thought this advice no longer necessary, but that we witnessed the operation quite recently, whilst in the dark room with a very capable worker. This plan of previous wetting is wrong, and for a very simple but important reason. When the plate is put direct into the developer, the latter, as it gradually penetrates the film, does its work. If the plate is already soaked with water, there is no absorption of the developer into a film already wet, and action is to a large extent superficial. Use sufficient developer to rapidly cover the plate, and give the dish a twist, so that the developer really does flow over the entire surface of it.

Sensitizing Post Cards.—Soak 25 grs. of gelatine in 2 oz. of water for an hour, add 15 grs. of ammonium chloride, and place the cup containing it in hot water. When thoroughly dissolved and mixed, filter, and with a camel's-hair brush coat evenly the number of post cards (thick quality) required. They will keep any length of time when dry. To sensitize, brush over a solution of silver nitrate 60 grs., citric acid 15 grs., distilled water 1 oz. When dry, print and tone in the usual manner. A beautiful sepia is obtained by printing deeply, and toning with potassium chlora-platinite.

Carbon Prints on Japanese Paper and Vellum.—The peculiar transparency of Japanese paper and vellum and the value of the same is never more strikingly shown than when these are used for the final support of carbon prints. True, they are a little more difficult to work, but with care some exquisite results can be obtained. The first thing to do is to clip the sheets of paper or vellum so that it will not shift, and then work into the pores a collodion composed of:

Proxyline	7½ grains
Methylated ether	½ ounce
Alcohol	½ ounce

This should be applied with a camel's-hair brush and worked into the surface, and no less than three coats given, allowing each to dry in between. On the surface thus prepared the carbon print is transferred and possessing a transparency which gives a richness and depth in the shadows, which is obtainable by no other means except by using a transparency in contact with paper.—*Photo News.*

Cutting Dry Plates.—It has been found that when dry plates are cut with a diamond on the side opposite the film and then developed the film turns dark along the edge of the plate to the breadth of a few millimetres. The film always develops first on the side next the glass. This effect has been traced to a momentary fluorescence along the line traced by the diamond, the radiation penetrating the plate.

The Focal-Plane Shutter was the subject of a lecture by Walter Kilbey, at the Richmond Camera Club last week.

The principle of this type of shutter is of a blind with a narrow slit passing in front of the plate instead of the usual type working in connection with the lens. The width of the slit is adjustable as well as the speed at which it travels. Thus a slit one inch wide at the lowest tension of the spring gives an exposure of one-twentieth second. If this width is reduced to half an inch the duration of the exposure becomes one-fortieth second, or with one-tenth inch opening an exposure of one-two hundredth second is given. The beginner was advised not to attempt to snap objects moving at a very high speed until he has had some practice and has learned to fire off his camera at the correct instant. This is only to be acquired by practice, and can only be done by keeping cool and steady, and hastening slowly. No better subject can be found to begin upon than children at play, as their movements are not too rapid, and their faces and actions are always more natural than when in maturer years, when an expression of self-consciousness is assumed when faced by the camera. It is generally supposed that focal-plane shutters are of use for photographing moving objects only; this is a great mistake, as this form of shutter may be used with advantage for landscape work, and makes it easier to secure clouds upon the negative without excessive under-exposure of the foreground.

TRADE NOTES.

WILD FLOWERS with a kodak portrait attachment is an easy possibility with the kodak supplemental lens, costing only half a dollar. It has been on the market for some time, advertised as a portrait attachment. This does not prevent it from being an extremely valuable help in photographing small objects, such as wild flowers, small animals, etc. Objects can be focussed to within three and a half feet, giving a much larger image than can be secured with the ordinary kodak, which focusses at about ten feet.

It is a handy little instrument to have in your pocket when out on a country ramble. Many opportunities arise for its use and you greatly increase the capacity of your outdoor camera.

A BIG help toward securing good cloud effects and plenty of detail in foliage is the use of a good orthochromatic plate. They have many advantages over the ordinary plate and there is little or no difficulty in handling them. What little extra care required in their manipulation is more than repaid in the results—which could not be obtained with the non-orthochromatic plate.

A plate particularly adapted for the all-round use of the out-of-door worker is the Seed orthochromatic plate, possessing the fine grain of the well-known 26X, in addition to its correct color sensitiveness. In taking up your landscape work this spring you cannot do better than try the Seed ortho if you are not already using them.

WE have received the prospectus of the Southern School of Photography, of McMinnville, Tenn. The buildings, the largest in the world devoted to teaching photography, make an attractive and imposing pile and are thoroughly equipped for their purpose. Mr. W. S. Lively, an ex-president of the Kentucky and Tennessee Photographers' Association is ably assisted by a competent staff of well-known photographers.

While the school has only been established some two or three years the large number of testimonials it has to show indicate that it has made a very promising beginning. Readers contemplating a college course should consult Mr. Lively before making a decision.

THE GOERZ-ANSCHUTZ new model promises to be the camera hit for 1906. It is one of the "De Luxe" cameras with many novel features, including a highly perfected focal-plane shutter, working up to one-thousandth part of a second. It is extremely light and compact, beautifully finished in black ebony, with oxidized metal work, and is the most desirable hand-camera we have seen. Anyone doubting its good qualities can have one on ten days' free trial by writing the Goerz Optical Works, 49 Union Square, New York.

"THE ART OF NEGATIVE MAKING" is a very useful booklet put out by the M. A. Seed Dry Plate Co. It contains much useful information and formulæ and some practical advice. For the benefit of those who do not know,

the different specialties of the firm are described. Copies can be had at the Eastman agencies and are worth the asking.

THE "KOILOS," a new shutter made of aluminum, very light and compact. Working up to one three-hundredth of a second, it should appeal to the hand-camera worker who is seeking a rapid and reliable shutter at a moderate price. The "KOILOS" is simple in construction and made of few parts, with few chances of getting out of order, and the price is as low as $13.00. Further particulars and descriptive circular can be obtained from G. Gennert, 24 East 13th Street, New York.

EDITOR'S TABLE.

THE approaching springtime seems to be stirring the poetic muse. We have received quite an effusion of verses lately. One of them, beginning "Don't get gay," is from the pen of the editor of a photographic magazine known all over the world for its artistic and poetical qualities. To the reader who first guesses the author's name we will make a present of the autograph copy of the verse in question. Readers in Boston are barred from this competition.

A GREAT International Exhibition of Photography and of the Sciences, Arts and Industries connected therewith, is announced to take place, from July to October inclusive, in the Great Palace of the Champs-Elysées, Paris.

This all-embracing demonstration of photography enjoys the highest official and private patronage, and, further, is actively supported by the most eminent scientists, artists and experts of all countries.

The first international gathering of the kind took place thirteen years ago, also at Paris, in the year 1892. But it was less noteworthy than that which is now in preparation. Since 1892 polychrome prints by the indirect process of Ducos du Hauron's color-photography; cinematography based upon chronophotography, photography as an amateur hobby, rotatory photography, radiography and numerous other applications of photography, have come into being and undergone enormous developments—to say nothing of the illustrative post-card which has conquered the whole world.

Commercially and industrially, photography has more than trebled in importance, and place will be given on the one hand to all the latest ideas, and on the other to a collective exhibition of photographic progress.

The scope of the programme of the International Exhibition of Photography of 1906 answers to every requirement. It comprises all the multi-varied aspects of this branch of science, all the industries directly or indirectly connected therewith, together with powerful and unprecedented attractions. We shall give publicity to this programme as soon as we are authorized to do so by the committee.

THE PENROSE PICTORIAL ANNUAL, 1905-6, eclipses all previous volumes by the quantity and beauty of its illustrations. It is a splendid showing of the possibilities of modern reproduction processes. Almost every known process is represented, and while it is of the greatest interest to the process worker, it cannot fail to interest the photographer who is alive to the necessity of keeping himself well informed on all reproductive processes.

Its 283 illustrations—many of them beautiful examples of the three and four-color processes, make it one of the most interesting picture-books we have yet seen. Published by A. W. Penrose & Co., London, England. (American Agents: Tennant & Ward, New York.) Cloth binding, $2.50.

WE have received a copy of *Pictorial Composition* by A. G. Marshall, published by the Photo-American Publishing Co., being a reprint of a series of practical lessons which first appeared in the *Photo-American*. These lessons were the outcome of several years of correspondence criticism on the art side of photography, undertaken by Mr. Marshall, at the suggestion of the late Edward L. Wilson, who knew so well what the photographer most needed.

As a first manual on composition for photographers we recommend it to those who would seek to improve the pictorial qualities of their work. The text is illustrated by numerous examples from nature and from famous paintings and is thoroughly practical and helpful. It can be had in cloth binding at $1.00, paper covers at 75 cents, post paid from this office.

AN ENGLISH ROSE

Sydney H. Wood, Darlington, England

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. MAY, 1906. No. 593

CALIFORNIA PHOTOGRAPHERS' RELIEF FUND.

AN URGENT APPEAL TO EVERY PHOTOGRAPHER IN THE COUNTRY.

INASMUCH as there will undoubtedly be much suffering and deprivation on the part of the California photographers by reason of the recent disaster, it seems proper that the fraternity all over the country should hasten to relieve their distress.

To that end an Emergency Committee was appointed by the Chairman of the Metropolitan Section of the Professional Photographers' Society of New York, which met at the studio of Mr. Falk and organized the "California Photographers' Relief Committee."

It was decided to start a National Fund by a popular $5.00 subscription, and to invite the co-operation of every photographer of the country.

The purpose of this fund is to assist in re-establishing our unfortunate brothers in business at the earliest possible moment.

The Metropolitan Section has raised $500.00 from the Photographers of Greater New York within twenty-four hours, and the Albany Section P.P.S. of New York has agreed to contribute a minimum of $200.00.

Please send your check to-day to Joseph Byron, Treasurer, California Relief Committee, 53 West 32d St., New York City.

He who gives quickly, gives twice.

B. J. FALK,
THEO. C. MARCEAU,
E. B. CORE,
PIRIE MACDONALD,
J. G. GESSFORD,
A. F. BRADLEY,
F. E. BAKER,
JOSEPH BYRON, *Treas.*,
CURTIS BELL, *Sec'y*,
Committee.

THE VALUE OF FRATERNITY.

BY THE EDITOR.

For many years we have steadily and persistently advocated the convention idea—State and national. We feel that no apology is needed when we again sound the call for the national meeting to be held at Niagara Falls in August.

This year's convention is to be along business lines, and an earnest effort is to be made to educate its members to be broader, busier and more successful business men—to quote Mr. Hearn's policy. That there is room for much improvement in the photographers' methods and practice cannot be denied.

The Professional Photographers' Society of New York at their recent successful convention demonstrated that much could be done toward the elimination of cut rates and an improvement in prices by a policy of combination and mutual understanding.

The theory that the individual rises at the expense of the profession has long been exploded.

It is admitted that the more men there are who rise, the more is the general level of the profession elevated. The national and State conventions have been the greatest factors in the elevation of the professional photographer.

In two months from now we will be publishing "final appeals" from the various officers of the convention urging everyone to make it convenient to be at Niagara Falls in August. The decision should be made now and plans that cannot go wrong should be laid.

At the national convention you will have the advantage of examining a collection of pictures of national importance—a collection of the best work the country can produce—and you will have an opportunity of meeting the men who made them. They will be glad to tell how they made them.

The smaller man is invariably the greatest gainer from the convention; he has much to learn, and nowhere has he a better opportunity to learn.

In the minds of the bulk of the people, the photographer is too often placed in the tin-type class. This is a misconception that must be remedied by the photographer himself. The profession must be given a higher position in the ranks of business.

A business convention or a series of business conventions will do more to dissipate this idea than any amount of individual effort. It is only by an interchange of ideas that a common understanding and purpose will be arrived at.

To the regular attender of conventions no urging is necessary, he knows from past experience that he has much to gain from being present, but to those who have never been to one we cannot urge too strongly that they make a very special effort to be at the Niagara Falls convention, August 7, 8, 9 and 10.

SECOND ANNUAL CONVENTION OF THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK.

The Second Annual Convention of the Professional Photographers' Society of New York was called to order at 2.30 P.M., on Thursday, April the 6th, by President Dudley Hoyt.

The large ball room of the Hotel Astor presented an animated scene when Mr. Hoyt called the meeting to order. The gathering was remarkable for its size and enthusiasm, there were present over one hundred and fifty members, including a fair sprinkling of ladies, representing the best in professional photography throughout the State and city.

In the President's address the work of the society during the past year was ably and thoroughly gone over. Amongst other things he suggested a working plan that is worth consideration, it was "Subsections, to be known as districts, to be organized in all towns and communities capable of supporting them. Meetings to be held once a month, as usual with the exception of every fourth month, which should be a general meeting of all the meetings in the section. In other words, there should be a meeting every four months of all members of the society in each of the three sections, these meetings to be held preferably in the town or city of the parent section.

"The dates of the general section meetings should be so arranged as to bring the entire society together for the annual meeting in New York. Thus there would be a monthly meeting in each district, a meeting every four months in each section and the annual meeting in New York. In this way I believe that the best interests of every member will be conserved and the society made of real and permanent value to all.

"A uniform constitution and set of by-laws should be formulated by a committee, and such other incidental details as will assist the formation and conduct of the local meetings."

The list of questions was a novel and useful idea worked out at the convention, of this Mr. Hoyt had to say before concluding, "The list of questions which you have been asked to consider embraces many interesting factors in the everyday work of the photographer. At the proper time you will be asked to throw what light you can upon these matters and I hope that every member will participate in the discussions. Please remember that these questions are suggested to you for the purpose of creating interest along definite lines. We must not hope to fire the Hudson or to correct matters and conditions that have existed for half a century. What we can do is to get the abuses into the limelight, where each and every one of us will have a chance to throw our respective bricks at them. In the consideration of these questions, I bespeak the careful consideration of the membership. The eyes of the photographic world are turned in our direction to-day. Let us try to accomplish something—a something that will live and expand for the good of the profession and ourselves."

METROPOLITAN SECTION.

The Metropolitan section reported that starting on April 20, 1905, with a membership of five, it has now thirty-four members, it has held twelve meetings, with a good attendance. Through the earnest representation of Mr. MacDonald and others at the meeting of November 9th a generous subscription was raised for the purpose of securing proper representation of the copyright interests of the photographers during the framing of the new copyright laws.

A second report of the Metropolitan section was put in explaining the absence of any pictures in the single print exhibition from this section. At the last convention it was resolved that each member be invited to send one picture to be hung on the walls, the Executive later added a rider to the resolution to the effect that each member attach to his print the price at which he sold such picture. Unable to get the rider withdrawn the Metropolitan Section decided not to exhibit. This action robbed the single print exhibition of most of its interest and value and caused much disappointment to the visiting members.

COPYRIGHT.

The Metropolitan Section reported on the copyright question "that the interests of the photographers of the State of New York as well of the United States, are being splendidly championed by the Copyright League and has felt no need for further action.

LABOR BUREAU.

The Labor Bureau reported that the bureau had not met with that amount of support that had been looked for and expected from the members of the society. Sufficient had been learned from

the first year's experience to enable the Committee to formulate a plan for its reorganization and improvement.

INSURANCE.

Report of the Committee on Insurance. Mr. MacDonald had to report that he, as President last year, had appointed full committees but with the exception of one man the appointees had declined to serve therefore he had no report to present.

There being no further committees to report the meeting then resolved itself into a committee of the whole and discussed informally, the speeches being limited to five minutes, a series of questions arranged by the committee. At 6 P.M. the meeting was adjourned until 1 P.M. the following day.

For the first night no special programme had been arranged for the entertainment of the visitors. The Hotel Astor being in the very heart of the amusements of the city it was thought best to leave the members to their individual choice.

SECOND DAY, APRIL 6TH.

The second day's session opened with even a larger attendance. The meeting was called to order by President Hoyt at 2 P.M., the minutes of the first meeting having been accepted as read. The President announced that the nomination for officers was then in order. A committee on nominations was then appointed. They proceeded to distribute a printed ballot—evidently all arranged beforehand, nominating for President, Dudley Hoyt, of Rochester; for First Vice-President, Walter E. Talbot, of Schenectady; for Second Vice-President, E. F. Foley, New York; for Secretary, George Nussbaumer, of Buffalo; for Treasurer, Don C. Scott, of Olean. The President then moved a resolution that the ticket be voted upon as a whole, this resolution was, however, not carried, the members deciding to elect each officer separately. Mr. E. B. Core then nominated Pirie MacDonald for President. No other names being put in, the contest for the Presidency was between Dudley Hoyt, the retiring president, and Pirie MacDonald. At the close of the voting Mr. MacDonald was declared elected by 68 ballots, Mr. Hoyt receiving 60 ballots. One hundred and thirty-three ballots being cast, five of which were defective. Mr. MacDonald nominated Walter E. Talbot for First Vice-President. The Secretary was instructed to cast one ballot of the convention for Mr. Talbot. Mr. E. F. Foley, the regular nominee for Second Vice-President withdrew in favor of G. Taylor Griffin, of Albany, who was elected. Mr. Don C. Scott was elected Treasurer without opposition. Mr. Core nominated Curtis Bell, of New York, for Secretary. Mr. Nussbaumer, the regular nominee retiring, Mr. Bell was elected unanimously. This completed the election of officers.

While the official ballot gave Mr. MacDonald a majority of eight votes, his actual majority was considerably more. The election of officers was advanced from the fifth place on the programme to the first and many of Mr. MacDonald's New York City supporters were not present in time to cast their ballots. Several who were in the room at the time were prevented from casting their ballots by a ruling from the chair.

EXECUTIVE BOARD ON LABOR BUREAU.

The Executive Board report on the Labor Bureau was then read and gave rise to considerable discussion, it was in part:

Whereas, the management of the Labor Bureau along the lines formulated by the former committee having the matter under its jurisdiction has been unsatisfactory and not conducive of the best results, be it

Resolved, That the Executive Committee be authorized to appoint a resident secretary, whose office shall be in New York City and whose duties shall be the gathering of data of value to the Bureau in the manner hereinafter provided for. The compensation of the resident secretary to be based upon a percentage of the gross receipts of the bureau; and be it further

Resolved, That each secretary of a local, sectional or divisional branch of the society be made an active correspondent of the bureau. The duties of such correspondents to be the gathering, compilation and forwarding of such data as arises in the respective districts with reference to labor conditions, men out of employment, men wishing help, etc. This information to be forwarded to the resident secretary once a week who shall in turn compile the information so obtained and furnish each secretary of a division or section with a digest of all the information obtained through this or such other sources as may be at his disposal, once a week; and be it further

Resolved, That the compensation of the resident secretary be fixed at fifty per cent. of the gross receipts of the bureau obtained in the following manner: As a fixed fee, each person securing a position through the agency of the bureau shall be required to pay into the treasury of the bureau 10 per cent. of the first month's wages, collected while in such position. It shall be the duty of all local secretaries to inform the resident secretaries when persons listed on the regular blanks of the bureau obtain positions in their respective districts, so that this fee may be collected by the bureau. The remainder of the fund so collected is to be devoted to advertising the work of the bureau, for stationery and such other incidental expenses as may arise; and, lastly, be it

Resolved, That the resident secretary of the bureau furnish each local secretary with a weekly report containing all information upon labor conditions gathered in the manner herein described; that he advertise the bureau through the agency of the photographic press, and that he take such measures as he deems proper to acquaint the photographers of this and other States with the fact that the bureau is in active operation and is in a position to secure help or employment for those who desire it.

At this point the discussion became somewhat spirited and is best described by extracts from the official report.

By Mr. MacDonald: Mr. President, may I ask the name of the mover of the resolution?

The President: It is the report of the Executive Committee appointed yesterday.

Mr. MacDonald: Do I understand that the report of the Executive Committee was formulated prior to the presentation of the report of the Labor Bureau?

The President: Your question is out of order, Mr. MacDonald.

Mr. MacDonald: I rise to a question of information, Mr. Chairman. Was this resolution which is being put forward by the Executive Committee written prior to the presentation of the report of the Labor Bureau?

The President: Yes, those in favor of its adoption as read say aye.

Mr. MacDonald : Mr. Chairman, it is usual and customary in a case of this kind to give an opportunity for debate.

The President: Take advantage of it.

Mr. MacDonald: The Chairman of the Labor Bureau in his report yesterday stated emphatically that there was no question at all but that the fullness of purpose of a labor bureau had not been met with. The Chairman of the Labor Bureau also acknowledged that the experience of this past year was of unquestionable value, in that it did point out the defects in the original scheme. The Chairman of the Labor Bureau also recommended, and I wish, ladies and gentlemen, to call your attention to the fact that there was a report adverse to the report of the Labor Bureau—the Labor Bureau called attention to the fact that it was their opinion that this Labor Bureau might be carried on effectively by a photographer. The Labor Bureau now wishes to call attention to the fact that it has been unable to get a sufficient co-operation from the members of the State Association, in that only twenty members applied for help. If you are not able to get the support for a bureau of this kind from the membership, the support which merely means the asking as to what labor we have on

hand to give you, what class of employees we have to satisfy your wants, tell me how are you going to get secretaries all over this State, in all of these little divisions, to yield you weekly and monthly reports? You talk about the necessity for co-operation; you talk about the necessity for interest; you talk about the necessity for growth—I wish, without any kind of criticism of my friend Talbot, to point out the fact that the Manager of the Labor Bureau has not been kept informed as to the conditions of the membership even, though he has requested from time to time information as to such conditions.

I want to call your attention to the fact that you are involving yourselves in an enormous piece of machinery, and a piece of machinery for the purpose of supplying twenty men, as has been our experience this past year, with information. It is most devoutly to be hoped that more people want information of the kind than we have been capable of supplying and than has been asked for. And then in this scheme, which is broad and comprehensive, I will grant you you rely for the support of this Bureau on a commission. Allow me to call to your attention, ladies and gentlemen, the fact that we know absolutely, just as absolutely as it is possible to know without being capable of producing the documentary proof, that there are members of this society who have accepted help whose names they did get from our lists, and who have not paid the commissions. (Applause.) Ladies and gentlemen, I pass by the fact that this resolution, which contains criticism, was written before you had a definite knowledge of what we had to tell you. That is not part of my reason for asking you to vote against this; but I know that this is infinitely too involved; I know that it is practicable to carry this thing through in the hands of some one man. Do not say to me in a moment that I have failed in this matter, for the reason that I acknowledge that we have not created a result such as I had hoped for, but I want you to know that, aside from anything else. I have sent out through this country fifteen thousand application cards to the various stock houses. I have gone to endless trouble and worry and expense. These fifteen thousand were sent out from my office at my own expense of postage and printing, and I have endeavored to the utmost to carry this through to a complete result; and I, in my little experience, would suggest that this thing is really honest, but too involved to be practicable. I believe that it is possible to carry this through by the hand of some man who has sufficient leisure, some man who is an absolute and practical photographer and who is in touch with the needs every day and every hour of photographers. Therefore I shall oppose this resolution.

A standing vote was taken and the resolution was lost.

Mr. Hoyt was then made an honorary member of the society, it being

Resolved, That in recognition of the services rendered the society by Dudley Hoyt, of Rochester, during his term of office, the society do elect the said Dudley Hoyt an honorary member of the society.

The resolution was seconded by Mr. MacDonald from the floor.

Mr. MacDonald was asked for a few words, he said, "I shall have little to say to you to-day except that I appreciate this honor and attention which you have given me. I want you to understand that this honor which has come to me a second time I am not receiving in any personal sense at all, but I am receiving it as being a mark from you that you desire a policy of the utmost simplicity, the like of which this organization was founded on.

I want you to recognize the fact that this Executive Committee demands that you give us definitely written your instructions as to the kind of exhibition you desire. We are going to demand of you a resolution definitely worded; we are going to demand of you that when you word and enact that resolution it shall be after full debate, so that you will know exactly what you are to

expect; and I will promise you that the Executive Committee will stand as the servants of this organization in the carrying out of your orders. If you decide that you are to have an exhibit of any certain character, remember that every man that votes for the scheme, be it what it may, is expected to do his part toward carrying it out; and I promise you that I will as faithfully as possible carry forward your organization on the most simple, most absolutely fraternal plan that is possible, where each and every man will be just as good as each and every other man, and—pardon me I have talked to men so long—I presume it is in order that I may add that each and every woman is just as good as each and every man. (Laughter and applause.)

I really have nothing else to say to you, except that I would advise, I would strongly advise that a resolution be prepared setting forth definitely your idea as to your exhibits. Thank you. (Applause.)

EXHIBITION FOR 1907.

Mr. Baker: Mr. President, may I ask that the Secretary read the resolution on the question of exhibits that was offered yesterday?

The President: That is in order now, Mr. Baker. We will listen to the unfinished business of our last meeting, of yesterday.

The Secretary: The report was received by the Committee adversely. The resolution reads as follows: "Be it resolved, that each member of the Professional Photographers' Society of New York be requested to send to the next annual meeting one photograph which he considers one of his best productions of the year, same to be hung or exhibited at said meeting place, and be it resolved that no other conditions whatever be added hereto."

Mr. Nussbaumer: As Chairman of the Committee on Rules and Resolutions, the reason of our adverse report to this resolution was taken from VI, which reads as follows: "The officers shall be President, First Vice-President, Second Vice-President, Secretary and Treasurer, who shall constitute the Executive Committee, and as such Committee shall have power to act for the Association." Now, if the officers elected wish specific instructions in these matters, why, it rests with them.

INSTRUCTIONS ASKED FOR.

Mr. MacDonald: Mr. President, I am afraid that the Executive Committee which is to take charge of the affair next year find that it is necessary that there be a definitely voiced instruction. Last year there was a policy of elimination; there were a matter of say, 150 pictures, and it was the understanding of the Executive Committee last year that the Association wanted the most absolutely choice exhibit that it was possible to make, and to that end they invited the services of Mr. Garo and Mr. Parkinson, men whom they believed were good picture makers and men of good judgment, and they eliminated from the 150 pictures all save, say, twenty-eight. The matter was then carefully and thoroughly discussed in open meeting, and it was decided after a full discussion that this plan was not the plan that they wished carried out. A resolution was adopted asking that each member send one picture, the policy of which was to govern this year's exhibit. If those of you who were present will remember, I, from the chair, asked that the Executive Committee of that year might not be embarrassed by criticism, might not be embarrassed by not knowing definitely the wishes of the Association, that the orders of the Association be put down in specific words; and they were put down in specific words in the form of a resolution. We, the Executive Committee of next year, demand your opinion, your voice. If you do not want one picture from each man, say so. If you want a small and carefully selected exhibit from a large mass of exhibits, say so. If you want pictures arranged in classes, with prices on them, say so. Our Executive Committee are your servants and will carry out your orders. We merely want to know what you want. We do not

wish to have to act for the society, and you may be absolutely sure under no circumstances whatever will we act against the express wishes of the society. (Applause.)

The Secretary reads the resolution again.

Mr. Hollinger: I was very much pleased with the one picture arrangement of last year, and I would like to see it tried really. I would like to add an amendment to that, that every man's picture be hung on a line with every other man's picture. Some of those pictures on the bottom, if they have names you cannot see them, and they are so far down that we do not care to look at them. The men that put these up did the best they could; they did the best they had the space for; but if we had these on one line there would be some arrangement to it; and I wish to add this to this resolution, that every man's picture be hung on a line with every other man's picture.

RESOLUTION AMENDED.

The President: Mr. Baker, do you accept that amendment?

Mr. Baker: I accept that amendment.

Mr. Rockwood: Does the resolution say whether that is compulsory or voluntary, each man exhibiting a picture? Several of the younger members asked me that just now, and I think it had better be definitely known just what you intend, whether every member shall exhibit or depend entirely upon his will.

The Secretary reads the resolution again, emphasizing the word "requested."

Mr. Rockwood: I think that is quite enough, because it would be impossible to make it a coercive expression. So that will answer the young gentlemen that asked me, that they are *requested* to do so.

Mr. Core: I really like the spirit of Mr. Hollinger's suggestion; but there is one point which I think Mr. Hollinger has not thought of, and that is that two small pictures could just as well be hung on that line and be just as acceptable as one large picture. There might be a difficulty about getting a space long enough to put out this line; but I wonder whether Mr. Hollinger would feel that that would do, putting two pictures instead of one on the line?

The President: Are you ready for the resolution as read—that is, the resolution of Mr. Baker as read and amended and accepted?

Motion carried.

Mr. Gaboriault: I move you that a vote of thanks, a rising vote of thanks, be tendered to E. F. Foley, of New York, for his kindness in accepting the position as Chairman of the Entertainment Committee when it was left idle by those who should have taken it.

Seconded and carried.

The President: Any further business, Mr. Secretary?

The Secretary: Nothing further that I know of.

Mr. Wendell: A year ago, at the annual meeting of the society, a motion was introduced to give a certain exhibition. Now I am not going to make any long talk on the merits or demerits of the attitude of the New York branch of this society. Yesterday the Metropolitan Section introduced a motion and the motion was spread on the minutes, which censured our President in rather unmeasured terms, and in justice to Mr. Hoyt, who is a gentleman I have only known a short time, and in justice to the motives which I know prompted him, I think it is up to some one to take this matter up and not let it rest at this point. Now, ladies and gentlemen, if the Metropolitan Section of this society saw fit not to exhibit, they might at least have sent a picture and let the Committee turn that picture down. We came down here to see some work from the Metropolitan Section, and we have been disappointed. There has been a great deal of disappointment in not seeing the work hung here from the Metropolitan Section. I think that the Section should have sent some work. I am not going to go into any long talk about it; but if

they had sent a picture and let the Committee turn it down, they would have had some grievance. As it stands, I want to make a motion that the motion that was spread upon the minutes censuring Mr. Hoyt be withdrawn.

Motion seconded.

The President: Before I put that motion I wish to express my own opinion of that affair. My own desire in that respect is to have that resolution or that motion, or that report of the Metropolitan Section, stand as read, and I insist. That, I think, will close the matter effectually, as it is a matter that we have considered most fully and to an end that I think has taken up a great deal more time than has been necessary.

Mr. Wendell: Mr. President, if that is your wish, I simply want to state to the members you can have your way about that; but from personal talk, and talk with possibly the majority of the up-State members, I simply have expressed their sentiments.

The President: Of course I appreciate the sentiment, but we could go on with this matter eternally, and to no end. Forget it. We are all one, and working to one end, and to that end let us all work. (Applause.)

The Secretary read votes of thanks to Mr. Rockwood and Mr. MacDonald.

The President: The only remaining business I believe we have is a series of questions. If we care to go into a Committee of the Whole in a formal way, as we did yesterday, it is in order. It is a matter for your consideration.

A Member: I move you that we go into a Committee of the Whole to consider those questions that were not considered yesterday.

Motion seconded and carried.

The society then went into Committee of the Whole, with Mr. MacDonald in the chair, and proceeded to discuss the list of questions.

At 6 o'clock the Committee arose, reported progress, and recommended the passage of the following resolution:

That the President be authorized to appoint a committee to further consider the matter of holding an international exposition at the Madison Square Garden.

The resolution was adopted.

Adjourned *sine die.*

The evening of the second and last day was devoted to a most enjoyable smoking concert given in the wine vaults of the Astor. Among those who spoke and added merriment to the occasion were "Papa" Cramer, Burr MacIntosh, Elias Goldensky, Charles Wesley Hearn and Pirie MacDonald; Morris Burke Parkinson was a particularly happy choice for toastmaster. Vice-President Foley was highly commended for the splendid arrangements he made for this model smoker. Meanwhile the ladies were entertained at a theatre party that was reported to have been a great success.

THE MAN WITH A SYSTEM—W. M. HOLLINGER.

BY SIDNEY ALLAN.

PHOTOGRAPHIC portraiture is irresistible, organize its methods of distribution! Comparatively few men seem to comprehend the importance of this principle. There are by far more good photographers than good business men in the profession. The majority attend to their advertising, correspondence, their meeting of new clients and keeping track of old ones in a half-hearted, desultory, amateurish fashion. They relegate business to a back seat and would like best to show it the door, and simply pose as artists—as if an artist had ever been successful without being a business man. Their tactics have no design and construction. C. W. Hearn hinted at this in his last year's talk on reception room ladies.

Yet there are noteworthy exceptions.

Strauss, Marceau, MacDonald, for instance, are men who have worked out—each for himself—a system of distribution in strange contrast to men like Garo, Goldensky, Bradley, who, like the lilies of Biblical fame, have but little concern for the "strange, irregular rhythms of business." as Henry James would put it. Their genius for art of these latter men is not wedded to a talent for business. They do not make the utmost of their opportunities. Of course, I do not mean to convey the idea that business plans and policies should be predominant in a photographic studio; I personally dislike all that savors of artifice and trick, but a sound and graceful business method is a most necessary adjunct for all who desire the comforts of life as well as its glories.

Most first-class photographers have a system when they are under the skylight; all that is necessary would be to imbue their operations in the reception room and at their office desk with a kindred spirit.

W. M. Hollinger's New York career is the best evidencee for this statement. He used to practice at Dayton, Ohio, in the ordinary easy-going way, using backgrounds, palms and papier maché accessories, retouching and silhouetting, selling his portraits by the dozen just like the rest of them, giving the dear public exactly what it wanted.

I have never seen any of Hollinger's work of this period, so I can only speak from hearsay. When I first made the acquaintance of his work, about ten years ago, the metamorphosis had already taken place. He had become a full-fledged individuality, and I could not help wondering at the neatness and perfection of his method. What I liked about it was that it was entirely unobtrusive and that it produced work of remarkable truthfulness and force and subtlety of character.

He was really the first of the regular professionals who took a more serious, artistic view of photography. In 1897 even Stieglitz's fanatic clan applauded him and tried to claim him as one of their own (and to my knowledge he is the only professional who enjoyed that doubtful distinction). Hollinger's work at that time—delicate modeling in halftones, clearly defined against light-tinted greys—was exquisite. He soared far above Davis's "ideal average." He had particularly fine feeling for line, and in his posing and grouping displayed all the rare gifts of selection, arrangement and concentration. He had fed his mind upon the Old Masters, not, however, to falsify photographic texture and show his own cleverness, but merely to give a more truthful photographic exhibition of life and character. In recent years his work has become a little "tight." No artist can work for years in the same groove. True enough, he also tried himself in darker tone compositions—nobody can except that influence, it seems to be in the air—but the clear drawing of his early New York period afforded greater esthetic gratification.

In that style of work he was most true to himself, for he was one of the first (if not the first) who introduced the "plain room" studios, using with preference the red burlap wall of the same, a simple white or neutral tinted sheet, or an embossed leather screen, as backgrounds. He dispensed with all the other accessories of the well-appointed studio. His studio is absolutely empty; it contains nothing but the camera and a little platform on wheels, in which the sitter is posed. I had occasion to remark in a previous article that I do not quite approve of this latter arrangement. To be carted about through empty space, with the curious, expectant gaze of two eyes steadily fastened on one's face, is not conducive to freedom of facial expression. I admit that his scientific scrutiny may afford valuable opportunities for observation and the study of physiognomy, and that with the help of experience the photographer might ascertain facts which he could not conquer in any other way. But there is no doubt to my mind that the naturalness of exposition and interpretation of human character suffers thereby, as facial expression more than any other part of our organism is

conditioned by momentary environment and the resultant of circumstances. This is to me the one flaw in his studio method.

As for his innovation, it had my fullest admiration from the start. We owe to him largely the simplification of the background. He typified for us the clearly defined figure against a light background. It was a most noteworthy assault on Philistia. It gave elegance and refinement to the print, and increased its artistic effect tenfold. Most men at his time were satisfied with accepting the monstrous conventions of the papier maché period. Hollinger, on the other hand, saw in it merely galvanized tradition, and boldly set forth to establish a more plausible and logical style of portraiture. He became an expert manipulator of middle tints and a master of light-toned compositions. These various accomplishments are feathers in his cap which he can wear with special pride!

But what would all this have amounted to if Mr. Hollinger had not reorganized his reception room methods in a similar manner? He realized that in order to organize his methods of distribution he had to organize his audience, teach them to comprehend his intentions, or at least to excite a little flutter of expectation among their ranks. He maneuvered it well. He made it his special business to impress every person of distinguished appearance with the fact that his work was different to that of any other man (and it was), that it was strictly Hollinger's. He scattered his invitations broadcast, and assured his sitters that he did not expect them to order unless they were perfectly satisfied. What an attractive bait for the guileless public! How such a generous offer is apt to whet public curiosity at a time when commercialism is being brought home to all our doors, and new advertising intrigues are served up hot with the breakfast cereals. And then another little detail. The prints will be ready the day after to-morrow; they will surely reach you before the end of the week. How the mouth must water at the anticipation of this novel photographic experience! What a system! What clever machination! And this is no romance. Mr. Hollinger is a marvel of punctuality. The day after to-morrow the sitter gets his prints in a neat package by express—not proofs, but finished prints, half a dozen of them or more, each different, some as large as an 8 x 10, others as small as a miniature, while some may be trimmed down to long slender panels. And these portraits are not for sale by the customary dozen, like ordinary ware; they are pictures, each offered singly, at a price from three dollars fifty upwards, and you may order as many and whatever you like or none at all. Of course, he is too shrewd a salesman not to talk casually of his own work, but he has arrived at the conclusion that it is best to give the public credit for some intelligence, and therefore never indulges in self-lavish praise or the running down of other men's work.

The public soon recognized the merit of the Hollinger method. It caught on —it always does if correctly and cleverly approached. His customers had something to talk about and show to their friends, who liked or were persuaded into liking the latest photographic mode. So an endless chain of advertising clients was started, and productions of a highly artistic and individual nature brought into commercial circulation.

Of course, such a system is mere embroidery, but it belongs to the grand secret of popular success. The public wants to be pleased. It never asks the question, Why am I pleased?

To analyze, so that others may learn from the experience of the successful man, is one of the sad and zestless tasks of the critic. The professional portrait photographer is in a peculiar position; he fain would like to be an artist, or rather, as I do not like the term, a good craftsman, who faithfully puts out his work in the best possible way. Yet he has appeal to the multitude, which has only a hazy notion of what photography can do and what it cannot. Furthermore, the public does not care to notice the

presence of commercialism in such transactions. What the photographer may do is to disguise his business methods in such an ingenious way that an esthetic gratification will arise from the very contrast between the vulgarity of the business functions and the graciousness of their treatment.

This is at least my grumbling explanation of the matter, and this W. M. Hollinger has done to perfection. He has not only pluck and genius to think for himself and believe in himself, but also the rare faculty of execution, to carry out his intentions and to realize his theories in a practical way.

A COOL STUDIO.

BY PAUL CLARE.

A GLASS house is a veritable trap to catch heat, a fact of great advantage to the gardener, but at times awkward for the photographer. A restful coolness and (what is almost as necessary) an appearance of coolness is vital during summer. First and foremost, good ventilation is needed. The heat of an unventilated place is stagnant and depressing. Take a sitter into such a room and she wilts and tires. Where available, a number of windows should be open—the more windows the less chance of draughts. Whenever sitters are not actually in the studio, this is feasible, and often several windows may be open even when work is in progress. But a good blow through is only a part of ventilation. The quiet, automatic sifting of air through ventilators is needful at all times, for there are seasons in spring and fall—and in winter, too—when windows cannot be opened, but when unchanged air becomes as foul and stagnant as in the heat of summer.

Ventilation must be carried out with some attention to the methods of air. It is well known that if air is passing out from the top of a room it causes a draught under a door. The outgoing air, in short, must be replaced. If the door be sealed so that air cannot pass under it, the room will grow stagnant in spite of the hole at the top. Air exhibits a disinclination to pass out and in by the same aperture. If a lath, or even a cord, be stretched across the hole to divide it in two, it will be found that a current of air starts. So with our ventilators, we need more than one; and several small ones work better than two larger ones. A row placed high in the slant and another row close to the floor will act best. It is commonly supposed that air comes in through the lower and passes through the upper ventilators. This is not necessarily so. Air does not float upwards in itself naturally; only when it is heated. In a room of stagnant air the flow may be downwards. It is possible to have a pool of "bad" air either at the roof or the floor; and so it is advisable to have ventilators near each. A single window opened does little good. If opened top and bottom, a flow of air commences.

Fresh air attained, it is next necessary to have *suggestions* of coolness. A red-plush upholstered chair is an abomination on a blazing day. If such a chair is in use it might be temporarily covered with some calico wrapper in a good photographic cool color, or a chintz of quiet, unobtrusive pattern. A wicker chair is better, and sometimes a deck chair, or even a hammock, is better still, though both may be used for unsuitable people unless the photographer is careful. Artificial plants should be retired and cool-looking growing ones used instead. Some of the lilies which grow in china bowls containing only pebbles and water are excellent for this purpose. Light thin draperies sometimes help the effect.

The skylight frame is, of course, painted some light, cool shade. In some studios a little extra painting in cream or green or some such tint will help the general effect, as will a certain amount

of shade. If the sitter passes from a dark dressing room into a bright studio, heat is at once suggested. If the dressing room is brightly lit and the studio screened, the suggestion will be coolness.

Water has a restful look, and it should be used. But water must be clean and clear, and a globe of goldfish is a pretty ornament, and as good as a toy when children are present.

Children, by the way, are thirsty little mortals, and often a fractious child is merely a thirsty one. A filter—one of those glass ones in which the drip, drip of the water may be watched, should be in every studio. A block or chips of ice floating in the water will ensure coolness.

In hot weather we are not content with fresh air; we must feel the flow of it. A few hand fans should be in every studio, either Japanese paper fans or palm leaves. The latter usually look better. And electric fans that do not buzz too much will send cool currents across the studio.

Last, there is the operator himself. I have visions of a terrible sight, seen a quarter of a century ago. It was an old line "professor," with somewhat long hair streaming over the collar of a velveteen jacket. The day was a hot one, the studio stuffy, and the professor was mopping himself with a large brown-and-gold silk handkerchief. Poor little sitter! no wonder the child was fractious. There is no need for an operator to wear black, if it is not in keeping with the day. He should look cool and comfortable, even if he has to don white to do so. It is not what is but what seems.

PROFESSIONAL PHOTOGRAPHY.

THAT professional photography is making rapid strides cannot be denied. The increasing size and costliness of the new studios is an outward and visible sign of an increasing appreciation of the calling of the professional photographer.

The following description of the Speaight Bros.' new studio in London, taken from the *Photographic Monthly*, makes interesting and encouraging reading. The illustrations of the reception hall, lounge and dressing rooms, which we regret we cannot reproduce, suggest the Waldorf-Astoria or St. Regis Hotels with their wealth of luxurious and artistic fittings.

Wonderful as has been the progress of photo-engraving the last quarter of a tury has seen almost equal progress in professional photography. Of course. since the general development of portraiture began earlier than that of photo-engraving, the progress possible in the last quarter-century has depended more upon development in detail than upon new invention and discovery. Yet those of us who can look back the necessary number of years must see how enormous the progress has been. Twenty-five years ago we had, outside London, some twenty or thirty firms which could be said to be substantially established, owning their establishments, and having large capitalization, now there are hundreds. In the past, it was easy to rattle off such names as Sarony, Albert Sachs, Lambert Weston, Hughes & Mullins, W. Byrne, Abel Lewis, Chevalier Lafosse ,Lafayette, the Chancellors, Alex. Ayton, Whitlock, H. P. Robinson, Norman May, and a few others, who were "known everywhere" and constituted the cream of the profession. Now, the men of similar standing are almost too numerous to be dsitinguished.

While many of the old men remain with us, and some have maintained their relative positions, the growth of the profession has come (as is natural) mainly from the efforts of younger men; and by none of them is the modern spirit more exactly typified than by the brothers Frederick and Richard Speaight. From the old-time studio, worth a few hundreds, or at most, perhaps two or three thousand pounds, to the most ad-

vanced of all London photographic concerns, with an establishment valued at 100,000 pounds, is a big step and it is one that the Speaights have made in quite a few years. The reasons for their success are much the same as the reasons for the general advance in professional photography,—the combination, in one concern, of (1) artistic ability and originality, (2) business ability, and (3) energy, faith, enthusiasm. The Speaights have had more than ordinary success because there are two of them, and because one supplies exactly the qualities lacked by the other, while both are full of energy, faith and enthusiasm. Frederick has the methodical, practical, resolute, and judicial business mind, while Richard is an artist in his every fibre, instinct with life, energy, ambition, and a love of the beautiful creatures whom he has chosen as a specialty—the children.

In the studio, Richard is supreme, romping with the little ones, "making pretend" with all the light-hearted gaiety of a child of five, or, if the mood of the sitter demands it, entering into the spirit of childish troubles with all the sympathy of a mother. This personality is the main key to success, but the studio has also a hundred and one little things that contribute. It is cooled in summer as well as warmed in winter. Its air is changed constantly, the new suppply coming fresh, and filteied, dried, and warmed,—no promiscuous opening and shutting of windows, no alternations of draughts and stuffiness. Electric light is over-abundantly supplied, with more controllable variability than in any other studio, so that any required lighting can be obtained whether the daylight is much, little, or none. A host of details of these kinds help to make the studio unique,—to make its working easy and spontaneous. Nor is the studio alone in the thought and money devoted to its comfort. The aim is the old and good one—make it easier to do the right than to do the wrong, if you want good service—hence the fitttings of the work-rooms, from greatest to least, has been done with a thoroughness that we have not seen equalled in Britain or America. Where frequent floor-washing is desirable, the whole floor is of lead, under light lath-gratings; temperature of air and of solutions has been carefullly considered; each process (as carbon and platinum) has its separate rooms, and mechanical appliances and apparatus are used as fully as possible.

The most important appliances of all were often the most neglected in the old-time business, but here they are the most carefully considered and appreciated, and are shown (for we refer to the assistants) that this is so. Not only is their work well organized, but their personal comfort is well attained, a fact which becomes apparent from very little knowledge of the business.

As to the premises, rebuilt by the brothers, and opened last year, they are the last thing, to date, in photographic construction. The timber and its working, the stone-carving, the fibre-plaster decoration, the ornamental metal work, even such details as the great Oriental rugs in the halls and galleries, were all entrusted to specialists, and the aim was to produce a handsome, sumptuous building, good in taste, perfect in convenience, attractive in every detail of appearance, and avoiding entirely the gorgeousness of the modern public-house or variety theatre. The aim has been very fully attained.

A very important feature in the business has been the well-considered advertising, which has been principally limited to large and telling efforts. Indirect in character, as a rule, and dignified always, it has been more effective than if it had been more direct. Even such a natural suggestion to fond, wealthy mothers, as one that they should have their children photographed every year, on their successive birthdays, has proved, with judicious persistence, an excellent asset. The pushing of the "Baby's Album," with spaces for portraits each year from birth to twenty-one, has helped in this direction.

In helping charities the brothers have

been able to do very congenial work, and at the same time to push business. Their great effort (which was supported by leading photographers all through the kingdom) in connection with the Prince of Wales' Hospital Fund, was gratefully acknowledged by the King (then Prince of Wales). The planning and a great part of the carrying out, of the Coronation Bazaar in aid of the Great Ormonde Street Hospital for children was their work and was so successful. that they were both made life governors of the hospital. Many other charities they are helping almost every week; but apart from efforts of this kind they have *no free sittings.*

The Speaight success is based on the principles which have underlain all the great modern progress in professional photography,—specialization on the artistic side, organization on the business side, ample and good equipment in the executive department. And the root of the success of Richard Speaight as a portrayer of children, lies in a rule formulated (perhaps unconsciously) by him, which is, "never tell a child what you want it to do. Show it." Children are good imitators, but slow to understand and obey commands from strangers, and this rule sums up a great amount of acute observation.

PHOTOGRAPHIC CAMEOS.

THE making of cameos, says C. E. Mann, in *Trade News,* is not only a simple novelty, but it is one that pays. The process is easily worked, and a little practice will enable one to become an expert. I use a 4x5 plate, which is sufficiently large. To make a medallion to attach to a watch-chain, bracelet, or brooch, proceed as follows: Pose the sitter in a strong light. Powder the hair, eyebrows and beard, if a gentleman. Have the neck bare to the shoulder and make a profile view, using a black background, about the size of the head of the goddess on a silver half-dollar. Underexpose slightly and develop tolerably hard.

When the negative is dry paste thereon a round cut-out of thin black paper with the opening just large enough to show the head and neck. Then take a clean glass plate of the same size as the negative and cover it with a very thick solution of gelatine, applying it in the same manner as varnishing a negative. When dry, repeat the operation. See that the plate is coated evenly, and remember that the thicker the gelatine the better the results will be. This is an important detail and requires careful attention. When the plate is dried, immerse in a sensitized solution of

Bichromate of potash	1-3	ounce
Strong water ammonia....	20	minims
Water	8	ounces

This solution must be kept in a dark place; as its keeping qualities are not good it is advisable to mix fresh each time. The gelatine-coated plate is immersed in the above solution, in a dark room, by yellow light only, for three minutes, and allowed to dry in the dark. When dry, place in contact with the negative in a printing-frame in the same manner as you would use for printing-out paper, being sure that the contact is perfect. Expose to direct sunlight for about ten minutes. The time of exposure depends, of course, altogether upon the density of the negative, an ordinary negative will require about the same timed exposure as for carbon print. After printing place the gelatine plate in the dark in running water until the bichromate is thoroughly eliminated, then place it in a shallow tray of water, to which a few drops of glycerine have been added; allow it to remain there for fifteen minutes, when it should be removed and placed in a drying-rack to allow the

superfluous water to drain off. The image can now be seen standing out in relief; now place it in an empty dry-plate box of the same size as the plate, then mix some plaster-of-Paris, not too thick, and pour in the box over the plate. When the plaster has hardened, which will be in about twenty minutes, break away the sides of the box and remove the plate very carefully from the plaster cast. From this cast the cameo is made —almost any metal can be used. For the first experiments lead is the best metal to use, as it is very easily melted; one can make a few samples of this metal, but my regular orders calling for silver or gold cameos I usually give to my jeweler, as he, having a furnace and crucibles, can secure better and cleaner results. If the seal is wanted take the plaster cast, warm it somewhat and brush the same with olive oil, being careful not to use too much oil, and make another plaster impression from it. Use this last cast same as the former one. This process is much easier than it appears.

NEWS AND NOTES.

Bromide Printing Simplified.

At the recent congress of photography at Nice, M. Balagny, a well-known French chemist and writer, suggested the following method of working bromide and gaslight papers, and stated that no matter what make was used, excellent results were always obtained. The paper should be exposed for thirty seconds, then immersed in a developer composed of

Amidol	3 grs.	6 gms.
Sodium sulphide (anhydrous)	6 grs.	12 gms.
Potass. bromide (10 per cent. solution)	15 m.	30 cc.m.
Sodium bisulphite ($NaHSO_3$)	30 grs.	60 gms.
Distilled water	1 oz.	1000 cc.m.

The image appears slowly and with beautiful regularity, and there is absolutely no fog.

A Compensator in Printing.

M. Cotillon suggests a device to which we have given the above title. His idea is to expose a plate to light for a very brief period and then removes the gelatine film from any part which he wishes to print, thus obtaining very artistic effects, and having complete control over his final print. It is obvious that plain plates of various densities could be used, and different effects be thus obtained; but we do not think it is so good a method as that of using tinted matt varnish, or papier mineral and black-lead, or the compensator positive plan described in our April issue, 1905.

In Focusing Enlargements.

Getting an enlargement in absolute focus is no little bother, especially in the smaller degrees of enlargement. The following method is completely satisfactory:—After the first rough focusing for size, substitute for the negative two plain glass plates, holding between them an inch or two of black sewing cotton which has been scraped with the thumb-nail. A light (any sort of flame—unscreened and uncondensed) will show the fine fibrils along the sides of the magnified thread-image vivid on the white surface of the screen,—vivid only when the fibrils are in focus. The slightest displacement of the focus will blur the fibrils. A pocket magnifier should be used. You have no original blur to deal with,—no original "disc of confusion."

Fine fibrils will be found with any amount of enlargement. To register, *one* of the plain glass plates is used in front (lensward) of the negative when making the exposure, to ensure that the film of the negative shall be in the plane vacated bv the black cotton. Try it. You will never go back to your evil ways, and what took you some time vou will get "in a jiff," as Virgil says.—R. B. H.

STUDIO PORTRAIT: OUTDOOR EFFECT

The Feldman Studio, El Paso, Texas

HOME PORTRAIT

The Feldman Studio, El Paso, Texas

STUDIO PORTRAIT

The Feldman Studio, El Paso, Texas

PORTRAIT

The Feldman Studio, El Paso, Texas

THE BRIDE

The Shafer Studio, Fairmont, W. Va.

Arthur Wright, Operator

PORTRAITS FROM THE LAND OF BURNS

By John Terras, Markinch, Scotland

From Das Atelier

PORTRAIT

R. Dührkoop, Hamburg, Germany

PORTRAIT

F. Crosier & Son, Readsboro, Vt.

FROM A FORTY YEARS' EXPERIENCE.

We received some few days ago from our good friend Mr. A. W. Judd, of Chattanooga, Tenn., some carbon prints for examination. The carbon was transferred on to glass and had a richness and brilliancy that we have seldom seen. We would have liked to have reproduced them for the benefit of our readers, but found that owing to the interference of the glass support, the half-tone process would not do them justice.

In his letter Mr. Judd writes: "My experience with carbon printing began in 1878 when I paid $150 for five patents and the rights for this city. I have had much enjoyment from making prints for myself and for exhibition. I find that I can transfer to glass with greater ease and certainty than anything else, and by pressing paper to these transparencies you get a very satisfactory result. You can use any tint, smooth, or any degree of roughness, and tint the paper where the lights are too strong and shade the backgrounds or draperies to the desired tone.

"Another advantage is that the pictures are not reversed and can be kept

STUDIO OF A. W. JUDD, CHATTANOOGA

Note the amount of floor space saved by the method of suspending the backgrounds. See page 218.

clean. There is one objection, that of the chance of breakage, but for small sizes I think that is not a serious objection. This may not be new but I have not seen anything like it by any one else."

We would advise any of our readers who are interested in carbon printing to give Mr. Judd's method a trial. The prints sent in by Mr. Judd, 4 by 5 and less, were neatly framed in dark wood and gold oval frames, the color of the wood chosen to harmonize with the tone of the print. They were both effective and distinguished in appearance.

Another point Mr. Judd touched upon is a nuisance common to most galleries. We reproduce a picture of his gallery showing how he overcame the difficulty and of which he writes feelingly as follows: "For over forty years I have been taxing my patience with the feet and casters of the backgrounds. They are so unsightly, noisy and require so much room and time to arrange them.

"I took some wire about one-eighth inch with curved ends and hung from the ceiling in screw eyes. Into these hooks I put ordinary curtain poles with the background tacked to them, another pole tacked to the bottom or the extension rolled and buttoned curtains with hooks so as to adjust them to any pole or background. Wires were attached to the headgrounds so as to hook them to any pole. In this way I changed my backgrounds with ease and rapidity, without noise or disturbing the rugs and furniture. By discarding the background frames and feet I have saved ten feet of the floor space and I am able to make the room look much more attractive at all times."

The illustration shows Mr. Judd's arrangement very clearly and will, we think, have many imitators.

The Photographers' Association of Kentucky and Tennessee, we are glad to see, have elected Mr. Judd as their President for the present year. We congratulate Mr. Judd on the honor conferred and the society on its President.

SENSITIZING CELLULOID FOR PRINTING PURPOSES.

BY A. J. JARMAN.

THE beautiful effect that is produced by the transfer of a carbon print upon celluloid has often been imitated by coating celluloid with a bromide emulsion, then by exposure beneath a negative to artificial light or diffused daylight for a few seconds a picture is obtained by development, usually of a blacklead color. To change this color to a brown or sepia, resort must be made to a redevelopment process, or by bleaching and sulphurizing; of course, the right exposure must be hit or the print is useless.

It has long been the desire of the photographer to have ready sensitized celluloid, so that the image may be printed in the same way as sensitized paper, and be enabled to watch the progress of the printing in the same manner. The matted surface of white celluloid presents the appearance of ivory and enables the artist to work up such a print in water colors or monochrome with excellent effect. Celluloid with a glossy surface can also be sensitized if desired. To prepare celluloid for printing-out purposes the following utensils will be required:

One stoneware crock of one gallon capacity, one stoneware pitcher or jug two-quart size, a small kerosene lamp chimney, several strips of glass one inch wide cut from a cleaned-off 11 x 14 negative, to be used for stirring, one yard of cheesecloth, and half a yard of strong canvas such as is used by ladies for wool work, with an eighth of an inch mesh. The cheesecloth and canvas must be washed well in hot water so as to get rid of any sizing they may contain, finally rinsed in cold water and dried; they are

then ready for use. The emulsion is now prepared in the following manner:

Gelatine (Heinrich's hard)	4 ounces
Distilled water	12 ounces
Chloride of ammonium (C.P.)	45 grains
Rochelle salts	90 grains

Cut the sheets of gelatine into pieces about two inches wide, dissolve the salts in the distilled water in the stoneware crock, stir well so that the gelatine becomes soaked with the saline solution, place the crock, now covered with a stoneware lid, into a boiler with water standing about three inches high, bring this to boiling point slowly, stirring the mixture occasionally with one of the glass strips. Meantime prepare the following:

Nitrate of silver	1 oz. 60 grs.
Citric acid (powdered)	95 grains
Distilled water	10 ounces

The nitrate of silver must be dissolved in six ounces of water, the citric acid in four ounces, then added to the nitrate solution, forming a clear liquid. Now make up the following solution with hot distilled water:

Powdered alum	90 grains
Distilled water	5 ounces

The temperature should be about 150° Far. The gelatine, being now dissolved, should be well stirred so that no clots exist; remove the crock and allow it to stand awhile so that the temperature falls to about 130° Far.; then, under the weak light of a gas jet, pour the acid silver solution in small quantities into the crock, stirring well at the same time with a glass strip until all the nitrate of silver solution has been added; now pour the hot alum solution into the mixture, in a gentle stream, and continue the stirring for a few minutes; add lastly one ounce of pure alcohol, known as photographic alcohol, this being well stirred in with the emulsion; the crock must now be covered and stood in a cool place to allow the emulsion to become thoroughly set.

If the emulsion is prepared during the evening it will be ready for washing in the morning. Although the emulsion thus prepared will keep for a day or two before washing, it will be found best to attend to this the following day. There will be no fear of discoloration from what is called the ripening operation, which in the case of gelatine means the combining of a portion of the nitrate of silver with the gelatine, forming an organic compound which for sensitizing celluloid it is better to avoid. The washing of the emulsion is accomplished as follows: Take a bone or hard rubber paper knife; press it down the side of the crock; then run it around so as to loosen the solidified emulsion; lift the mass out and cut it into pieces with the bone knife by laying it upon a piece of clean oil cloth or a sheet of glass; place these pieces into a large basin of clean cold water (all these operations may be carried out under the light on an ordinary gas jet); take the crock that the emulsion was made in, half fill it with cold water, cut off a piece of the coarse canvas; place therein a few pieces of the emulsion; bring the four corners together and twist the cloth up tight, forcing the emulsion through the meshes, allowing the shreds to fall into the water; continue the operation until all the pieces of emulsion have been squeezed through the canvas. Now tie two pieces of canvas over the top of the crock; the cloth just used can be used for one; turn the crock over upon its side and let the water drain off; then fill the crock again with cold water by pouring it through the canvas. Repeat the operation three times, allowing ten minutes to elapse between each washing. Lastly, drain well; untie the canvas, wiping off any shreds of emulsion into the crock, and pour over the emulsion one ounce of pure alcohol. This will aid as a preservative. The canvas must be well washed and can be used several times. The emulsion is now ready for dissolving. Make up the filter by tying a piece of washed cheesecloth folded to four thicknesses over the small end of the lamp chimney, cutting off the spare ends; place in the chimney a piece of absorbent cotton pressed down upon the cheesecloth. Place the chimney, inverted, into a hole cut in a piece of board or shelf; beneath this place the stoneware

pitcher ready to receive the filtered emulsion.

The next operation will be to prepare the celluloid. The sizes will depend on the photographer's requirements, and, consequently, the method of coating. Sheets of celluloid are usually supplied 20 inches wide and 50 inches long. Pieces 8 x 10 can be conveniently coated by laying them face down on the emulsion at about 120° Far. A little skill is required in the manipulation so as to avoid coating the back as well as the front. If 8 x 10 is the size decided upon, then proceed to cut up the sheets of celluloid, which may be fifteen one-thousandths of an inch thick, or, if stouter material is required, there are twenty one-thousandths of an inch. The first size will cost $1.35 per sheet and the second $2.00, at the manufacturers, or by the hundred for the first size, 90 cents per sheet. Lay the sheet of celluloid upon the even top of a table or upon a large slate slab, which will be required for cooling purposes; mark off the sizes; place a straight edge from mark to mark, and draw across the tip of a sharp knife so as to nearly cut the celluloid through. Now double the end over; it will break with a clean edge. When the sheet is cut up, clean each piece with tepid water and rinse under a stream of filtered water; hang it up to dry with a push pin through one corner. As soon as all the pieces have been cleaned, coating may then be proceeded with.

Place the crock containing the emulsion into a vessel of hot water (half the emulsion may be used, if desired, to coat only a few pieces); bring the water to boiling point; stir the emulsion well with a glass strip; add one ounce of pure alcohol with two ounces of distilled water and one ounce of nitrate of silver solution made up of fifty grains of nitrate of silver in one ounce of distilled water. If half the emulsion only is used, then only half the quantities given are necessary. The emulsion must now be poured into the filter. As soon as filtering is complete, the pitcher containing it may be placed in a pan of hot water. Take a clean porcelain tray, 10 x 12 will do. Wash this well in hot water and pour in the emulsion; stand the tray upon a piece of board; take one of the pieces of celluloid; wet the surface of it by pouring over it some tepid water, and drain well so that the surface is only slightly wet. Then lay it down upon the surface of the emulsion by bending the celluloid so that the middle touches the emulsion first; then lower each end. The celluloid may be lifted at once and drained at one corner into the tray against the side so that no air bubbles are formed. The celluloid must then be laid down upon a wet level slate slab to set the coating. By wetting the slab the celluloid becomes perfectly flat by suction. Just as soon as the coating has become set, lift the piece of celluloid by one corner, allow the water to drain from the back and allow it to dry by hanging from a shelf, taking care that nothing comes in contact with the back. If there are any air bubbles, they may be disposed of by touching the spot with a quill camel's hair brush. If there are a considerable number of these bubbles, then the emulsion is too hot; they are caused by the generation of a gas from the camphor contained in the celluloid. Should it be desired to coat larger pieces than 8 x 10, then another plan must be followed. In such a case, the sheet of celluloid may be cut into three pieces and a special frame made so as to hold the sheet of celluloid between the top and bottom halves of the frame, the top half having pieces of india rubber tacked on to form a bed for the celluloid to rest upon; then when the top half is pressed tightly down and held in position with hooks, a tray is formed into which the emulsion is poured, taking care in the construction of the frame to form a lip at one corner to pour the emulsion from. The frame should be well coated with shellac varnish and washed thoroughly after use.

Pieces of celluloid 16½ x 20 can be coated in this manner. Of course, there will be a waste of half an inch all round the outside. When coating by this method, the celluloid must be wetted

after it is put into the frame, the water being poured off at the lip. Water at the ordinary temperature may be used in this case. When the emulsion has been poured over the surface a little tilting is necessary to secure even coating. Pour the emulsion each time through the filter. When celluloid is coated face up as in this case, very rarely will there be any gas bubbles formed. As soon as the coating is complete, remove the celluloid by undoing the hooks; turn over the top half of the frame; then, lifting it by opposite corners, lay it down upon the wet slab, allowing the middle to touch the slab first. By this means it will be drawn down flat upon the cold slab. The remaining emulsion may be kept for further coating if used within a week. The prepared celluloid when dry will keep in good condition for several months if kept from light and air. As soon as the coated celluloid is dry, it may be cut to the required sizes and printing upon it may be commenced. The progress of the printing can be watched the same as printing-out paper, but it must be well shaded when turning the celluloid back to observe the depth of printing. If this precaution is not taken the top portion of the print will become light-struck and the whites will become pink. The depth of printing must be carried only one shade darker than is required in the finished picture. The loss of depth is but slight in the operation of toning and fixing. After being toned in a gold bath, they may be toned in an acid platinum bath like almost any other silver print. The platinum toning must not be carried too far, or the resulting color will be a peculiar blue or purple blue.

When the prints have been made they must be well washed in a hard rubber fixing box (do not use a zinc washing box) by first wetting the print in a running stream of water, then placed in the grooves of the box, which must be filled and refilled with clean water half a dozen times. Do not try to wash and tone these prints like paper, or disaster will follow. They cannot be packed one on the top of another; the sharp edges of the celluloid will cut and scratch the prints. Toning must be carried out carefully, about four being toned at a time; then placed in a weak solution of common salt to stop the action.

For gold toning the following modification of the borax bath will answer well:

Saturated solution of borax....	4 ounces
Water	40 ounces
Solution of chloride of gold (one grain to the ounce)...	3 ounces

Toning must not be carried too far; the slightest change in color is all that is necessary for good brown and sepia tones. As soon as toning is complete, proceed to fix in a bath of hyposulphite of soda three ounces, water twenty ounces. Fixing will require from fifteen to twenty minutes; this is necessary because the trace of nitrate of silver in the emulsion forms a compound with the zinc oxide or other material in the celluloid, which requires long fixing to become eliminated.

After the fixing process, the prints must be well washed again in the hard rubber box three or four times; then placed in an alum bath made up as follows:

Common alum (powdered)....	4 ounces
Hot water	40 ounces

When cold, pour off the clean portion for use. This may be used many times over before becoming useless. Place the prints in this and let them soak for ten minutes; then remove them and wash in the hard rubber box half an hour, changing the water about a dozen times. After this the face of each print must be wiped with a tuft of wet absorbent cotton in a stream of running water; then suspended to dry by means of wooden clips, taking care to grip only a small portion of the celluloid.

Portraits can be vignetted perfectly upon this material—so perfect on the browns, purples and sepias by this process that many persons take them to be carbon prints; in fact, on several occasions they have been declared to be carbon prints upon celluloid. There is one important difference between a carbon print and one made by this process: the

depth in the shadows is due to a more perfect reduction of the organic silver compound and shows no difference in the thickness of the deposit, while in a carbon print the shadows and dark portions of the print stand well out from the surface.

As to permanency, time alone can prove this. The writer has prints made by this process ten years ago that are just as perfect as when first made. Prints made by this process possess an exceptional delicacy and a wide range of color can be produced at will. Of course, like many new processes, those who take it up must make up their minds to become master of it. One minor difficulty was overcome in the toning process by making a wood tray coated with shellac varnish. Spaces were marked off 5¼ and 7¼ upon the bottom and small varnished wood pegs placed in so that each piece of 5 x 7 celluloid rested against these pegs when the tray was tilted, preventing the prints from sliding over each other. By this means any number of prints could be toned, up to one dozen.

Celluloid prepared in this way will be found to meet every requirement, for lockets, brooches, pins and other ornaments, and when mounted in an art frame, leather bound, it becomes indistinguishable from ivory. When colored in water colors, it can be varnished by a thinned solution of amylacetate collodion. The thinning is accomplished by the addition of amyl acetate. Such a covering makes a complete waterproof protection, so that if the print becomes soiled it may be wiped with a damp cloth. The varnishing of the print is not a necessity. They present a beautiful matt surface. When dried down after toning and fixing the spotting of the print must receive some attention, so as to get the color to match and be free from gloss.

Glossy surface collodion prepared by this process will give a little trouble by the film becoming loose and peeling off at the edges, so that an allowance should be made for this by an extra quarter of an inch all around, so that after drying and spotting the print must be retrimmed.

For general effect and superior finish, as well as artistic taste, the matt surface will be found to excel. Another plan for mounting is to first trim a 5 x 7 print so that there is about one-eighth of an inch of white margin; then use a strong paste brushed upon the back of the celluloid within three-eighths of an inch of the outside edge. The print can then be placed squarely in a folder. Place a piece of clean blotting paper upon the face of the print; then a 5 x 7 piece of clean glass, and lastly a two-pound weight. Allow to remain until the paste has become set. Glue may also be used, but not hot. Should there be any difficulty in getting the paste to adhere, rub the back of the celluloid over with a piece of fine sandpaper, wipe off the dust and apply the paste. This will overcome the difficulty and give no further trouble.

THE WORKING OF DEVELOPMENT PAPERS.

BY E. A. TURNER.

(Continued from page 181)

Other developers may also be used for developing papers. Amidol developer gives excellent results, and the following formula is about right for most papers:

Water	10 ounces
Sodium sulphite, dry	180 grains
Amidol	30 grains
Potassium bromide, as necessary.	

The amount of bromide is best determined by trial, as just described, for M. Q. developer, and will vary considerably with different papers.

Artol may be used in combination with hydrochinone. The formula may be the same for M. Q. developer, but substituting the metol by *twice* the quantity of ortol.

Some workers immerse the print in water, previous to developing, but the

writer usually finds it more convenient to immerse the dry print directly in the developer. This is easily done, by having a generous quantity of developer. The print must be flowed completely with the developer when first immersed, to avoid streaks and air-bells.

When the print is removed from the developer, it is rinsed quickly in water and transferred to the fixing bath. Some workers use, instead of water, a dilute solution of acetic acid, say a half-ounce to the quart. This checks development instantly, and is an excellent preventive of stains.

When first immersed in the fixing bath it is very important that the prints be immersed instantly and completely, and be kept moving for a few seconds. If this is not done, yellow stains will form on the prints. A very convenient way to immerse the prints is with an inverted glass funnel, the stem of the funnel being used as a handle. In the absence of a funnel a wooden stick may be used. The funnel must not, however, be left resting on the prints in the fixing bath or it will cause dark circles on the prints where it comes in contact with them.

For the fixing bath, plain hypo may be used, of a strength of three ounces to the pint of water, but the acid fixing and hardening bath is so much superior, and so inexpensive, that the wise photographer will always use it.

The following formula produces an excellent bath:

Water	64 ounces
Hypo	16 ounces

When dissolved, add the following acid hardening solution:

Water	5 ounces
Sulphite soda, dry	¼ ounce
Acetic acid	3 ounces
Powdered alum	½ ounce

It should be used until each pint of the bath has fixed the equivalent of half a gross of cabinet or 4 x 5 prints and then should be thrown away. The bath is so cheap, it is wiser to waste a pint of it than to lose a single print by improper fixing.

Developing papers fix very rapidly, much more rapidly than is generally supposed. The prints are usually completely fixed in one or two minutes, but we can generally leave them in the bath for ten or fifteen minutes without the least inconvenience, and this time will make complete fixing absolutely certain.

The washing, after fixing, to secure complete removal of hypo, must be very thorough, for if the hypo is not completely removed the prints will turn yellow with age. If there is plenty of water and a good stream running, a half hour's washing will be sufficient provided the prints are kept well separated. Of course, if they are allowed to pack together, the water cannot remove the hypo. Longer washing does no harm, and the writer has frequently washed prints all night with no ill effect. The prints were, however, well hardened in the acid fixing and hardening bath.

After washing, the prints may be spread out, face up, on newspapers or cheesecloth stretchers to dry. The writer prefers to make a pack of the wet prints on a glass plate and squeeze out the surplus water, then placing the damp prints between blotters to dry. In this way the prints come out perfectly flat. It is necessary, however, that they be well hardened in the acid fixing and hardening bath, or they will stick to the blotters.

Some workers allow the prints to dry face down on cheesecloth stretchers or on blotters. Dried in this way they do not curl so much as when dried face up but they are always somewhat cockled and never perfectly flat, as when dried between blotters. Another way that has been occasionally suggested is to provide a long wide strip of cheesecloth and a large wooden cylinder or stoneware crock on which it may be conveniently wound. When the winding is started the prints are placed between the layers of cheesecloth, face out. They are thus dried in a position that tends to counteract the natural tendency of prints to curl, face in, in drying.

Prints on glossy developing paper have more tendency to stick to the blotters or

cheesecloth than matte surface prints, but the difficulty may be overcome by using a strong acid fixing and hardening bath, which will harden the film and remove the sticking tendency. They may, of course, be dried face up, even if not hardened. The method used in drying glossy gelatine prints, by squeegeeing on ferrotype plates, may also be used for glossy developing prints, and when removed from the plates the prints will possess a beautiful brilliant lustre.

The trimming of developing prints is no different from trimming any other prints, but some workers do not trim the print at all. They simply print with a white margin and carefully place the sheet on the negative by guide marks so that the white margin will be uniform all around the print. Then an acid fixing and hardening bath is used, which hardens the film so it does not "frill" around the edges of the prints, and trimming is not necessary.

Developing prints may be mounted wet, like prints on any photographic paper. A method of dry mounting is, however, sometimes employed, which enables the prints to be mounted on thin cards without cockling. Prints for dry mounting should be dried between blotters, so as to be perfectly flat. The dry print is placed face down on a sheet of paper and with a stiff brush, the paste is applied all around the edges of the print, the pasted edge being about one-fourth inch wide. The paste used for this purpose must have very good adhesive quality. Some varieties of prepared white photo paste serve the purpose very well, and hot glue may also be used. The pasted print is quickly transferred to the correct position on the mount, a clean sheet of paper placed over it and the squeegee roller applied. Or the whole may be put under a weight for a few minutes, until the paste adheres. This method of mounting requires a little practice, but it very successfully accomplishes the mounting of prints on thin cards without cockling. The kodak dry mounting tissue also offers a clean and easy method of dry mounting, the paste pot and brush are replaced by a hot flat iron.

CONVENTION NOTES.

The Photographers' Association of Illinois hold their annual convention at Springfield, Ill., May 2d, 3d and 4th. Every effort is being made to present a practical programme of the highest merit. In line with other conventions of the year, the main effort will be devoted to the business end of photography and the subject will be handled by practical men who have made successes of their own businesses. A good meeting is anticipated.

The next convention of the Kentucky and Tennessee Association will be held at Louisville, Ky. A. W. Judd, Chattanooga, Tenn., is President this year, and J. C. Reiger, Louisville, Ky., is Secretary. The convention will be devoted largely to educational features which will be under the direct supervision of W. S. Lively, President of the Southern School of Photography. Kentucky hospitality will be upheld in the entertaining features and a rousing convention is promised.

The Photographers' Association of California announce the date of their next convention as October 8th, 9th and 10th. Further details will be forthcoming in later issues of the magazine.

BROMIDE POINTERS.

EXPOSING distances from the light should be measured, not guessed.

VERY rough paper should not be used for subjects less than whole-plate size.

WITH an average negative half a yard is a good distance from the light for exposing.

CORRECT exposure and prolonged development in dilute normal developer gives finest results.

IS ART INDEBTED TO PHOTOGRAPHY?

BY PETER MACNAB.

ALL true art is but the expression of man's delight in God's work, and to the youth whose being is filled and thrilled with this admiration a language to give expression to it becomes necessary. The Italian shepherd boy, Giotto, resting while his flock is feeding, traces forms on the smooth surface of a rock with a piece of burnt wood; the art student in the London and Paris of to-day makes his first attempt to express form with the same material on the more convenient paper. There is no royal road to acquire this language of art; one may be under the disadvantages of isolation and discouragement; another may be surrounded by noble examples of what has been achieved by the great ones in art—and although this may stimulate his enthusiasm and rouse his ambition, it does not save him in any way from the necessity of beginning at the beginning, of humbly taking up his stick of charcoal, and, by patient training of hand and eye, acquiring this language of art which is ultimately to enable him to pour forth his soul upon canvas, and to give delight to others by recording what has given delight to him, whether it be the form of man or the fleeting glory of an evening sky. It is this filtration of subject through the channel of the sympathetic heart that gives the pure, sparkling product of art.

No artist of the present day can, however, ignore the fact that a new phase, a new question, is before him. The photographer with his camera, that veritable "trap to catch a sunbeam," is everywhere in evidence; and by a process becoming more and more simple every day is placing before our eyes transcripts of Nature—records of fact and form, of drifting cloud, of rolling wave, of flight of birds—which cannot fail to have an influence on present and future art. While no mechanical process can ever act as a substitute for the skill and power of the artist's hand, should the painter not take advantage of this new "gateway of knowledge"? Nay, more, are its traces not already very visible, and, for good or for evil, is not art already indebted to photography?

When photography became a practical, established fact, its first effect on art was a destructive one; it annihilated the art of miniature painting. As, however, it gave more than it took away, this is not much to be regretted. The next result was that it became a kind of labor-saving appliance to many portrait painters and their sitters; and even those painters who would scorn to use photography as a basis of their work, would scarcely deny the convenience of having a photograph beside them which would enable them to work on a head in the absence of the sitter without endangering the losing of the likeness. That photography has influenced portrait painting is undoubted; it has accustomed the eye to greater correctness of form, to greater delicacy of modeling in the features; and the average standard of the portrait picture of to-day is improved. But, in the higher sense of the question, has it influenced the art? To this the answer must be in the negative: to Rembrandt and to Vandyke, to Titian, and Velasquez, to Reynolds and Gainsborough, we must still look for the noblest examples of what art can do in portraiture; nor in the best work of the best portrait painters of our own day are any evidences apparent of photography having suggested any charm, any novelty, any special feature, which did not exist in the pre-photographic period.

When we look, however, to other phases of art than portraiture a different result may be arrived at. For many years

photography rested almost entirely in the hands of the professional photographer. Sitters came, portraits were taken, so many copies were ordered and so much money was paid. Topographical views of public buildings, of "places of interest," were taken by men who might be skilled in the process of taking a photograph, but who were utterly destitute of the slightest artistic instinct even to guide them in the selection of their point of view. Cast-iron trees spread their metallic leaves against a blank of white, and though the result might be wonderful, it certainly was not beautiful; art had nothing to do with its production, and assuredly could never be influenced by its result.

All this is being rapidly changed. The development and simplification of the means of taking photographs, the instantaneous plate, the hand camera, the film roll, have all combined to put this process into the hands of a new army of workers. To the great mass of these it will ever remain but an interesting scientific relaxation, astonishing its practitioners at the results that they themselves have produced. But in the ranks of this army of amateur photographers is also enrolled a minority of a very different stamp. The artist, who in many cases at first furtively and almost secretly tampered with this fascinating process, afraid lest his work should be stigmatized as a species of colored photographs, is beginning to see and to own openly the possibilities of the influence of photography on art, and the "studio with dark room attached" is being advertised. The man who, though endowed with some share of the artistic instinct and the love of the beautiful in Nature, had never acquired the language of art by which to express it, now finds the short hand of photography at his command, enabling him to produce results—oh how satisfactory to himself and to others, compared with the lisping effort of the water-color drawing of the amateur!

When photography was first made use of by a few artists as an assistant in the production of pictures, it was, as before said, chiefly as a labor-saving appliance; it might have been a convenience to the individual artist, but its influence on his art was probably more for evil than for good. By using it as a substitute for the skill of his own hand and eye, that skill became weakened and deteriorated, and he fell into the pitfall of exaggeration. The *morale* of the question also severely exercised the minds of many artists; was it not a matter of conscience, a question of right or wrong, this use of photography in the production of a work professing to be done by one's own right hand? This question is slowly but surely answering itself, for it is in a higher and wider sense than the mere saving of time or labor that photography is influencing art; its traces are evident in the work of men who never touched a camera or had a photograph beside them when at work; it is a new gift which has been given to us, which increases our knowledge of the forms and effects of Nature, and makes many hidden things plain, and though Nature be not art, all true art has Nature for its base.

At the first glance it might seem that if photography were to influence art at all it would be as an aid to the elaboration of detail, but this has certainly not been the result. No modern work produced since the discovery of photography surpasses or even equals in the matter of execution of detail the work of Van Eyck, of Holbein, of Denner and many of the Dutch painters. Indeed, the general tendency of the more recent phases of modern art point more to the suppression than to the expression of detail.

This negation of detail is but a result of the positive aim of modern art, which is to sacrifice all other qualities to the expression of light and space; to free itself entirely from the lingering conventionalities of a past period and to strike fresh chords in the harmony of Nature. The fascination of this art is, that it seeks to interpret, not to imitate, that it sacrifices the lesser truths in order to give the greater; while ceasing to niggle at the blade of grass and individual leaf, it tries to give to sky, and meadow gay

with flowers, "the uncertain glory of an April day"; to render the expanse of the rippling summer sea, or the crested wave breaking on the smooth wet sand, whose surface reflects the clouds that float across the blue.

We have, till now, so much associated the products of the camera with the mere *minutiae* of detail, have counted them as curiosities to be looked at through a magnifying glass, that it may be asked what act or part can photography have in evolving this phase of art, and in what way can this true suggestive art be indebted to photography?

It is precisely in this phase that art is now indebted to photography, and that the art of the future is likely to be more deeply indebted still. The painter is mostly unconscious of the part that photography has played in helping him to get rid of the conventionalities of a past period. It has so accustomed the eye of the painter and the public alike to a certain truth of form in the representation of all natural objects, that a return to the classical composition of the "brown tree" period in landscape is impossible; and it has had a large share in sending the painter to the closer and more constant study of Nature. But so long as photography took a certain time to get a result—even though that time could be counted by seconds—it may be said that photography recorded some fact of Nature quickly, which the hand of man could produce more slowly. It is when we come to instantaneous photography, look upon what it has already done, and think of what it may yet achieve, that one feels that a new power is at the command of the painter of to-day—a power which gives him exact knowledge of certain facts and forms of Nature which his own hand and eye could not seize; and which knowledge, added to his own close, patient, and loving study of Nature, must have a distinct and decided influence on his art; and in interpreting certain phases of Nature gives him an undoubted advantage over his predecessors, who had not this knowledge.

Think of what instantaneous photography has already done for the marine painter; it has loosed him from the bond of conventionality, and freed him from the trammels of traditional representation. It has arrested for him the rippling, dancing wave, it gives him the exact form of the fascinating irregularity of the elongated reflection of boat and sail on slightly broken water, it seizes the storm-wave as it dashes against the rocky shore and breaks into clouds of fairy spray and clots of foam and gurgling, swishing eddies.

No true painter of the sea now, and in the future, can help being influenced by photography. He may truthfully repudiate ever having used a photograph, but he cannot avoid having seen one. Truths which were hidden, or only guessed at, have been made plain; the scales having fallen from his eyes, he sees with a new vision, and his art is indebted to photography.

There are many other aspects of Nature in which photography may yet be of of invaluable service to the painter in assisting him to give, with more truth and fidelity to Nature, certain fleeting and evanescent forms. The floating cloud, which vanishes into thin air as the watcher gazes on it; the perspective of some skies where the cloud-forms recede with irregular, yet gradual, diminution of width till they become lost in the vaporous flatness of the horizon; the true form of the interstices of blue on a field of mottled sky—all these are effects which the painter has tried to represent; but it is quite possible to conceive that, aided by the additional knowledge afforded by instantaneous photography, he may yet succeed in imbuing them, not only with a truthfulness, but with a freshness and charm hitherto unknown, and that the art of the future may bear an impress which shall distinguish it from the art of the pre-photographic period.

If this result be ever attained, it will depend upon the use, and not the abuse, of photography. The artist who arranges and photographs a model, and then copies the result, may find it a very great

convenience; but such practice can only have a deteriorating influence on art, stamping out all individuality, and blunting that keen and nervous sense of perception so essential in art. Such practice might result in photography being indebted to art: it never could result in art being indebted to photography.

One thing is certain; this question of the possible influence of photography on art is one which cannot be ignored. A new power has arisen, which cannot be thrust aside, and which must make itself felt. Photography is no longer the mere taker of portraits at so much a dozen; the camera is being taken to the shore and to the field, to the highways and byways of Nature, by the hands of men impelled by the same influence as the painter—the love and admiration of Nature. It is impossible that art can remain uninfluenced by the results. The marvelous instantaneous seizure of rapidly moving forms and effects, which could not be caught by hand and eye alone, must add to the artist's knowledge of Nature, and this knowledge must add to the truth and power of his interpretation of Nature. Not in leaning on photography for support, and weakly accepting from it work which should be done by his own right hand, but in recognizing photography as a fellow-worker in the study of Nature, searching out truths for him and giving them to him to pass through brain and heart and hand, will the artist find how it is possible that art may yet be indebted to photography.

CARBON PRINTING FOR PROFESSIONALS.

By A Practical Printer.

(Continued from page 175)

Single Transfer.

Having made a print it is well to develop it the same day, for carbon tissue once printed keeps right on. If one knew a print was underprinted it would only be necessary to keep it one or two days to insure its coming out all right. So it will be seen that each day's printing ought to be developed the same day. For single transfer we develop directly upon the final paper or glass, the only transfer being the transfer of the pigment to the chosen support, be it paper, opal, metal or canvas. From the start to the very finish it is as simple as A B C, since we have only to squeegee the print upon the chosen support, develop and dry. If single transfer paper be used proceed as follows: Into a tray of luke-warm water throw the print and a piece of single transfer paper, which is paper merely coated with insoluble gelatine to make it adhere to the tissue. When both are limp, lay the transfer paper (it should be a trifle larger than the print) face up on a piece of glass, and upon this place the print pigment side down. By placing one end in position and gradually lowering the print it can be laid on without the sign of a bubble, and this is necessary, as it is not possible to squeegee very vigorously else the print might be distorted. Having brought paper and print into contact, place a blotter over them and gently roll the two smooth, after which lay the glass containing the print face down upon a dry blotter and put under pressure.

If a number are being done the weight of the glasses will be sufficient, except for a small weight to hold all in position, but if only a few are done a five pound weight will be best. When the bottom print has been under pressure fifteen minutes it is ready to develop. Remove the print and paper from the glass (or glass and all can be immersed should it not come off readily) and throw the print into water at a temperature of 100 deg. to 110 deg. Fahr., and there let it remain until the paper falls away from the pigment, leaving it upon the single transfer

paper. Allow the print to float on the hot water face down, occasionally raising and turning it to aid the more rapid removal of all soluble pigment, changing the water as fast as it becomes much charged with color, until finally the print when held out of water shows all detail and all the high lights are clear.

When fully developed the drippings from the print will be colorless, showing that all the remaining pigment is insoluble and permanent. It is senseless to try to hurry the development of a print by touching its face with finger or brush; it will only tear the pigment away, for it is very tender at this stage. Rocking will aid a more rapid development, and sometimes hotter water may have to be resorted to, but ordinarily the print is best left to work out its own salvation. I often develop a considerable number till the greater portion of the pigment is removed, and then transfer them to a large trayful of clean water and let them finish by themselves in that, afterwards rinsing through alum water and then hanging to dry. Sometimes in case of slight overprinting it is well to direct a gentle stream of quite hot water on obstinate parts and wash away these portions by local treatment. In this case I lay the print on a sheet of glass and pour hot water on parts with a little teapot, and can thus improve high lights in no small measure; but to do carbon work on a large scale, one must see that the conditions are all favorable for producing prints without any such extra work. Get fresh, soluble tissue, don't oversensitize, develop the same day you print, and all will run smoothly.

Some few colors have to be watched closely, as they are none too soluble to begin with and should the dealer keep them too long they will give trouble. Purple and red have given an occasional trouble this way, but, as stated, if fresh, and one attends to the minor details properly, there will be no cause to complain. If the transfer is made on to opal glass the same process of developing is carried out. Squeegee the print on to the ground side, place under pressure, and then proceed as before. If upon the glazed side or upon glass, watch cases, canvas, etc.—the substance to be transferred to must receive a coating of gelatine first. The formula for single transfer gelatine will be found elsewhere in this paper.

The Double Transfer Process.

As has been stated, prints by the single transfer process are reserved when printed from glass negatives, since the *back* part of the tissue becomes the face of the print. To obviate this we proceed as in single transfer, but develop the print upon waxed paper or glass, so that when developed we can squeegee transfer paper upon it, let it dry and later peel off the print from the support developed on, and as it adheres to the paper last squeegeed on, we have then a non-reversed print face up, that is, the *face* of the pigment which was in contact with the negative is now on top of the final paper instead of the back, as in single transfer. This double transfer is actually no more work, though from the description it might appear to be: a little more time may elapse ere one has the finished print in hand, but that is practically all.

To prepare the temporary support it is only necessary to wax it. For smooth, glossy prints, transfers from glass or the smooth side of opal will produce the desired result. For smooth but not very glossy prints, waxed paper sold as temporary or flexible support is used, while for matt surface the ground side of opal glass is admirable. A number of waxing solutions are given in the instructions of the various makers, and all answer. I prefer one made as follows, as it gives a very thin coating of wax and is reliable: Into 1 ounce of benzole shake 2 drams yellow beeswax shavings. When dissolved, or as nearly dissolved as possible, add 1 ounce each of ether and alcohol. This solution should be rubbed on the temporary support, whatever it may be, glass or paper, with a tuft of cotton wool. A very little will suffice, two or three drops being ample when rubbed from the center, to coat an 8x10 plate. Tem-

porary or flexible support, which is waxed already, must be waxed with this solution after each transfer. Oiled board, which is used in copying presses, forms a very good temporary support when waxed, and either that temporary support or the ground side of opal glass is the best, glossy effects seldom being acceptable in carbon.

One may perhaps settle down upon the matt effect. I like it best of all, and in this case let us see what the difference is between single and double transfer. We have our print, we have an opal of convenient size—a little larger than the print. We pour several drops of waxing solution in its center and briskly rub it over the entire surface, and it rapidly sets. Some then coat this with plain collodion and when set wash till all greasiness has disappeared. It is a good protection, but I do not always use it, the wax being sufficient: still it *is* a safeguard. Now we wet the print and the prepared opal and squeegee the two together (were we using flexible support we should do exactly the same), placing the two under pressure as in the case of single transfer, developing when pressed fifteen minutes and rinsing it till free of all colored drippings.

Up to this portion of the work it is practically the same as single transfer, but now, instead of leaving the print on the support, we take the measures to reverse it. This is very simply accomplished, as follows: A paper coated with gelatine somewhat like single transfer paper but being rather more sticky is used, called transfer paper. Cut a piece of this about the same size as the print to be transferred. Soak it in warm water until quite slimy to the touch, and then transfer it and the print to cold water and bring the two together. Roll the two together well, and set or hang aside to dry. When perfectly dry, and *not before,* the print will either fall off the temporary support of its own accord, or it can be peeled off by starting one corner with a knife; and that is all there is to the much dreaded carbon process, save mounting and spotting. I often keep a portion of the backs of the prints upon which a deal of pigment generally remains in order to have the correct color to spot with. One has a great range in paper for the final support, as we can either purchase double transfer paper of light or heavy grades, or can make it ourselves. I prefer to buy it by the roll, however, as it is not expensive and can be depended upon. I should have stated that before applying the double transfer paper to the print, it (the print) should be soaked a few minutes in a 5 per cent. alum bath (guess-work will do on the strength) to discharge the bichromate salt left in the print and to render the gelatine insoluble, and then rinse before applying.

(To be concluded)

BUSINESS SUCCESS.

J. Rees.

The business of a photographer, like that of any other professional man, will be in direct ratio to his capacity for adapting himself to the commercial methods and practices of the times. The professional element in his work has rather made against him in this. Like the druggist, with his professionalism, he has been inclined to overrate its value, take a stand upon a slightly higher plane than the purely commercial one, and been handicapped commercially in consequence. Marked professional capacity, of course, deserves special pay and the higher stand. But it is far safer for a man to assume the possession of average merit, attainable by an average man, and thrust himself boldly into the commercial ranks, for the certain reward he will find in them if he will but work wisely as well as diligently.

What form and complexion the wis-

dom takes, can be best judged by studying the chief causes of the success of well-known business men who have come to the front. There is not one who has not found advertising the main central supporting pillar of the superstructure of his fortunes. And advertising upon the most liberal possible scale that his returns would allow of. "But advertising is expensive work." So it is, yet not so expensive as when the men in question boldly risked their all in support of their faith in its value—and were amply justified by results. A man may have to spend $100 to make a profit of $50, but it is a wise expenditure, for the $50 would not otherwise be gained.

Photographers, upon the whole, advertise very little. Where they do, they follow in the ordinary grooves so littered with newspapers and handbills containing the particulars of the wares of their fellow tradesmen, that the description of their own is heedlessly passed over by a tired and satiated public. At the same time, the photographer has in his possession the very best means of gaining, and that with the greatest ease, the admittedly strongest, most profitable, and so, naturally the most diligently sought for feature in advertising, viz., novelty. Take a case or two in illustration. Every town has some characteristic, something in the way of a bridge, a river, a church, a pier, a promenade. A photograph of it should be taken, and reproduced in a small block. Prints from this upon one side of an artistic card, the other being devoted to a statement of work and prices, would form a very effective advertisement. It would not be tossed aside like an ordinary handbill but kept with more or less care. Snapshots of interesting local events, suggest themselves as still more interesting material for such treatment.

Another market and essential feature of successful advertising is continuity. Spasmodic efforts, however good in themselves, lose force from their occasional character. With a little thinking a photographer could express pictorially an idea requiring several pictures—the park, pier, or river in spring, summer, autumn, and winter, the chief open-air functions of the town or city's year, and so on. There are a hundred different ways in which a sharp and thoughtful man can elaborate novelties, either for distribution or exhibition in his window and show-cases. They would serve to keep his name before a pleased public, and he would not form an exception to the rule of the result, meaning money gain. It certainly means trouble and work, but he who thinks that success, even with the very highest capacity, in business or anything else is to be gained without these, had better, perhaps, begin calculating what sized wing would lift him. He is fitted for higher than earthly spheres.

There has been much grumbling at the low prices to which work has been cut down. It is natural enough perhaps; but, looking around, it will at once be seen that the cutting is not confined to photographers. It is general and characteristic of all business, wholesale and retail, all over the world. It may be further noted that some, recognizing the trend of things and its inevitableness, instead of grumbling at, cheerfully accept the new order and style of doing business, cut still lower, and are making money. They find that if prices are lower there are more customers. They know that they would not come at all at the old prices, and also—a fact that is too often lost sight of in complaining—that they are themselves benefited by the same lowering of prices in every other direction.

In the references to the value of persistent and novel advertising, and in adapting prices to the demands of the times, we do not by any means assume to have exhausted the elements of success; but if these two most important be gone in for as a start, it will easily and naturally follow. He cannot be progressive in one direction only. The show cases will be brightened up and rearranged, the studio repainted, old backgrounds discarded and replaced by something fresher looking and more novel,

new processes and new ideas generally adopted wherever possible.

If so, it is quite certain that work will tumble in more plentifully, and although the profits on the individual card may be smaller, in gross at the end of the year there will be a pleasing increase, but always in strict proportion to the extent of energy and progressiveness displayed. When profits increase—"Ah, well, there are many worse businesses after all than a photographer's."

EMINENT PAINTERS ON ART IN PHOTOGRAPHY.

A SOCIETY OF ARTS (LONDON) DISCUSSION.

PHOTOGRAPHIC workers at the Society of Arts on March 7, had an opportunity of seing themselves as others—that is to say, painters—see them. Mr. David Murray, R. A., was in the chair, and Mr. J. C. Dollman read an able paper with the somewhat misleading title of "Art in Painting and Photography." Mr. Dollman's tribute, as a painter, to photography was as generous as could be desired, and his criticisms and suggestions were taken up in the right spirit by the photographic workers—among whom was the Rev. F. C. Lambert—who were present and discussed the matter. Mr. Dollman and Mr. Lambert agreed that it was in figure studies that the photography of the future would reach its highest developement, and the former, who has himself won prizes of distinction for his drawings from the living model, suggested the formation of a school of photography in which special studies of figures and groupings could be made.

Beginning by a reference to the impressionist note of present-day art, Mr. Dollman went on to speak of modern photography, which had every reason to be proud of its artistic no less than its scientific progress. He described landscape photography as a simple and dignified rendering of nature, but one in which the photographer's artistic capacity was practically limited to the discriminating choice of the point of view. In the subsequent discussion Mr. Lambert suggested that Mr. Dollman was not aware of all the arts and tricks of photography, and that it might shock him to know that one picture was sometimes made up of portions of half a dozen landscapes. But Mr. Dollman insisted that, however superficially pleasing such prints might be, there was a scheme covering the whole of every landscape and seascape which, of course, was ruined by such combination treatment.

Mr. Dollman paid special tribute to the representations of the sea by photographic artists. They were most impressive, he said; particularly those which were not too sharp in their definition, and in which the sense of movement had not been shocked by a metallic crispness. In most of them we could estimate the beauty of the drawing seen in tumbling water and the character and form of flying spray. Some of the breaking seas were splendid things, and many of the scenes showing the effect of evening were very pleasing indeed, although the prevailing tendency was to indulge somewhat too freely in indistinctness of focus. The work done in the direction of interiors, too, with the facilities offered by the use of modern apparatus, was most perfect as a record of the image before us.

Forecasting the Future of Photography.

As has already been said, however, it was in figure studies that Mr. Dollman found photography to be most truly artistic. Figure subjects in photography, he said, might be fewer in number than landscapes, but they were more attractive, because the photographer had here more responsibility in his personal conception and arrangement, and his capacity as an artist was more directly brought forward. Many of these subjects were excellent, and some contained aims of a high order, and in this respect would

seem to forecast the future of photography. For this was the direction in which the art ought to be strong enough to assert itself, where it can dominate its subject and invest it with the creative.

In the commercial world photography was playing a striking part, particularly in the direction of illustrated journalism. He thought it must be generally admitted that the bona-fide character of a photographic picture, which illustrated a topical subject, gave it more interest than in the case of a more or less idealized picture. He appealed to his audience not to despise, but to respect, "the record print" —the exact representation of the things depicted. "We want to know what the incident was like; not what another man thought it was like."

In speaking of art training, Mr. Dollman admitted his ignorance of the methods of education which prevail among photographic societies—his knowledge of present-day photography was founded largely upon the annual exhibitions in London—but it was evident that the scientific side of the subject was well cared for. One often wondered, however, whether there was a course of training in art independently of the use of the camera proceeding in the society. The student in painting was for some years occupied in schools of art or in studios of painters, not only learning his craftsmanship, but educating his taste and forming his standard of beauty. The importance of this to the photographic artist could hardly be overestimated.

A Photographic School of Art.

In landscape work the power of creation did not lend itself so freely to the photographer. He had to use the keenest judgment and taste in the preparation of his subject before the photographic plate was exposed. His scope was limited by the intractability of nature. But in figure studies it was different, and Mr. Dollman suggested a photographic school for students to study from the living model. He was sure that the greatest thing that photography was going to do in the future would be associated with the figure, and here the photographer would have the best opportunity of showing his creative power in art. When one remembered the exquisite modelling of flesh and the tenderness of tone which a good photograph could give, it seemed a great loss that these qualities were not made available to the fullest extent. He thought that a student trained in art, and accustomed to exercise care in selecting his model, would, if he were a man with imagination, produce some photographic picture which would cause a sensation. Beautiful as were numbers of landscapes seen in photographic exhibitions, they were poor compared with the results which were possible in this direction at the hands of the right man. If the conception, say, of a G. F. Watts could be combined with a high degree of photographic executive the world would see for the first time what it was possible for photography to achieve.

Instantaneous Photography.

Mr. Dollman went on to make some interesting criticisms of "instantaneous photography," mentioning the case of a lecturer who visited this country some time ago, bringing with him some wonderful photographs of moving animals. Now, he might have contented himself with the photographic analysis of the movement of animals, but he demonstrated by single records of action—the action that was found in the five-hundredth part of a second—that the movement of animals in the works of Landseer and others was incorrect! It was another example of mistaking a part for the whole.

The object of art was to show movement as it appeared to the human eye, not as it appeared to a photographic lens with a rapid shutter. If a cart-wheel in motion were taken in that instantaneous way, the resulting picture conveyed the effect of a wheel at rest, every spoke and detail being sharply defined, while the common picture of a revolving wheel, drawn in the way that all artists draw it, was of course the truer art. Analytical demonstration in such cases meant stepping out of the domain of art into that of

science. Another point of criticism had reference to the photographic portrait taken direct on a fairly large scale. These portraits were sometimes unsuccessful, although the expression was admitted to be natural and the features faithfully depicted. He submitted that this was owing to the camera being brought too close to the subject, thus exaggerating the perspective view of the face.

While the human vision consisted of the combined images of the eye, the vision of the camera depended upon the single lens. The two eyes were able to look round the sides of an object; the camera lens had but one point of sight, and from the same point would yield a very different image. This led undue prominence to be given to the nose and the front planes of the face. The stereoscopic camera, with its twin lenses, got over this difficulty. The lecturer also touched upon the question of diffused light in interiors. He thought that the dread of halation was to some extent unfounded. The tracery of a window partially obliterated might, after all, have a better effect than if the detail were sharply picked out like an architect's drawing.

The Camera's Use for the Painter.

The discussion was felicitously summed up by Mr. David Murray, who referred to the early days of photography, when artists seriously suggested its suppression, as it endangered the profession of portrait painting. But photography had been a good friend to the portrait painter in some respects, although a foe in others—a foe because it made impossible the *abandon* which the old portrait painters adopted in their work. Some portrait painters had now gone so far as to adopt photography as a basis of their work; a few even had had the photograph of the sitter enlarged on the canvas so that they might be sure of their drawing and neglect no detail. In some cases this led to the cramming of the picture with superficial detail, while the essential effects of character and even of grace were sacrificed. The camera to landscape painters was of great service, and he (Mr. Murray) would not hesitate to make use of one that would show him the changing effects of clouds.

Mr. Murray also dwelt upon the service rendered by photography in reproducing paintings in the world's great galleries—a most valuable source of instruction, wanting only (when the copyist was an artist) in color, the joy of all things in art. One thing the photographer of landscapes could not do—make a Turner picture. Turner he described as an impressionist in the best sense of the word, and the biggest man in the realm of art. There were impressionists and impressionists. Some, like Claude Monet, had excellent qualities, but others were impressionists because they could not be anything else.—*Amateur Photographer.*

DEPTH OF FOCUS SIMPLIFIED.

BY C. WELLBORNE PIPER.

(Continued from page 112)

Variations in Depth.—This brings us to the consideration of the varying behavior of different lenses as regards depth. All methods of calculating depth have one fault in common. The calculations assume conditions that are not, and cannot be, fulfilled by any other than a theoretically lens of an unattainable type. Hence no lens behaves exactly as the formulæ would appear to indicate, while the performance of any particular lens depends on its degree of imperfection, and in some measure on certain details of its construction. These discrepancies cannot well be allowed for, except by the adoption of a special indicating device adjusted to the peculiarities of the lens, and if this is not available little can be

done beyond calculating the theoretical depth, and making a certain amount of allowance for probable errors. The first allowance we have to make is for the varying defining power of different lenses. The depth theoretically available may differ most materially from the depth apparently given by the lens, because in the one case we judge by a fixed circle of confusion, and in the other by an elastic standard which varies with the defining power of the lens. Our ideas of "focus" are very critical if the definition anywhere is very acute, but they are lenient if there is no very acute definition to set a high standard. We can, however, bring theory and practice into better accord by the simple expedient of allowing for a very small circle of confusion, say, 1-250 of an inch, with a lens of great defining power, and a larger circle, say, 1-100 of an inch, with a lens of inferior quality that will not give very critical definition in any circumstances. It is also necessary to consider the subject, for if there is no fine detail to show up the defining power of the lens, we may use a larger circle of confusion than would otherwise be admissible. If we are familiar with the lens, and give careful consideration to the subject, it may be quite possible to select a circle of confusion that will give calculated results agreeing more or less closely with the apparent depth obtained with the lens. The small est circle usually necessary will be about 1-250 of an inch, and the largest advisable about 1-100.

There is yet another allowance we can make. If a lens has a trace of positive spherical aberration, the distances that fix the limits of depth are generally shortened, while with negative aberration they are lengthened. As aberration cannot well be entirely eliminated, such effects nearly always exist, and sometimes the magnitude of the effects is very great. You may focus one lens on a calculated hyperfocal distance, and find that in accord with theory very distant objects are fairly sharp; you may try the same thing with another lens, and discover that the far objects are so much out of focus as to be unrecognizable. If such a fact is known, you can allow for it by making a deduction from your calculated distance, of a far depth, or by adding to the calculated hyperfocal distance. You must, however, be very familiar with the lens to make such allowances with any degree of accuracy, and the safest course is to use a much smaller circle of confusion in your calculations, and look upon the results as simply representing the margins beyond which it is not safe to expect good focus. The limits of depth thus ascertained are almost certainly wrong in point of fact, and will not allow you to take the utmost advantage of the depth actually available; but they are safe limits, and there is some advantage in that fact.

Useful Facts and Rules Concerning Depth.—When we focus on infinity the nearest object in focus is at the hyperfocal distance, and depth extends from that distance up to infinity.

The hyperfocal distance is always equal to the focal length multiplied by the diameter of the aperture, and divided by that of the circle of confusion.

When we focus on the hyperfocal distance the nearest object in focus is at half the hyperfocal distance, and the farthest at infinity, so that depth extends from half the hyperfocal distance up to infinity.

When we focus on half the hyperfocal distance, the nearest object in focus is at one-third the hyperfocal distance, and the farthest at the hyperfocal distance, so that if we represent the hyperfocal distance by H., depth extends from H/3 up to H. when focussing on H/2.

Similarly, if we focus on H/3, depth extends from H/4 up to H/2; or if we focus on H/4 it extends from H/5 up to H/3.

Generally, if we focus on a distance equal to H/n., depth extends from H/(n + 1) up to H/(n—1) Therefore a series of distances equal to infinity, H. H/2, H/3, H/4, H/5, etc., is a series of distances of consecutive depths, such as when we focus on any one, then depth is limited by the two adjoining distances. This is the fundamental principle upon

which all depth indicating devices, such as the Cornex index, are devised. The rule for finding a series of consecutive depths is also very often of use in ordinary work, as it frequently happens that the distance on which we focus is as nearly as possible some definite fraction of the hyperfocal distance.

If we focus on any distance equal to U. then, if H. is hyperfocal distance for the stop in use, depth extends from H.U. (H. + U.) to H.U. (H — U.).

If a lens gives a small quantity of positive spherical aberration, the distances limiting depth tend to be nearer the lens than the calculations indicate; but if the aberration be negative, the actual distances tend to be greater that the calculated distances. This is, however, not a universal rule.

Depth is unaffected by aperture so long as the caustic surface bounding a spherically aberrated light pencil intersects the plate. In such a case depth does not increase as the aperture is reduced, until the latter is reduced sufficiently to throw the caustic surface behind or in front of the plate, and when that condition is fulfilled the effect of further reducing the aperture is very much less than the ordinary depth formulæ would indicate. As the caustics must intersect the plate in some portions of the image when spherical aberration exists, and as traces of this aberration commonly do exist when very large apertures are in use, the conditions that render depth independent of aperture frequently secure and cause the appearance of great differences between the calculated and the observed effects.—*British Journal of Photography.*

WORK ON THE BACK OF THE NEGATIVE.

BY DRINKWATER BUTT.

WORK on the glass side of the negative lies principally in the direction of the reduction and increase of contrasts, and so is of assistance both to hard and underexposed plates, and those which are flat from the opposite error.

This may be accomplished by covering the back of the plate with a semi-transparent material, and then removing it in such places as we desire to print darker, and so rendering it more or less opaque where we desire less action of the light. For this purpose we may use what is known as matt or ground-glass varnish, tinted collodion, or any of the varieties of translucent papers known as tissue, tracing, *papier minéral, or papier vegetal,* removing or rendering portions of them more transparent where necessary, or tinting or further obscuring them where desired.

The Use of Matt Varnish.

The best and most convenient of all these is the matt varnish, which may be purchased, plain or tinted. A fine grain is most suited to small and portrait work, and a coarse grain to large and landscape negatives. The varnish is applied cold, but otherwise exactly as the ordinary varnishing of the face side of the plate. It should dry rapidly, and in five or ten minutes be ready for work, which may be begun by carefully scraping off the varnish with a sharp knife (do not use the retouching or pencil-cutting knife, but keep one for the purpose) from those portions which do not print dark enough on the trial print.

Working on the Varnish.

In an under-exposed negative, these will be the high lights, or in an over-exposed and veiled one the shadows. The scraping should be carried almost, but not quite, to the edge of the portion worked upon, in order to allow for the spreading of the light which takes place as it passes through the thickness of the glass. In place of using the knife, the

matt varnish may be rendered transparent with mastic varnish, but the process is hardly so neat or useful.

Water-color and Pencil on the Varnish.

In some cases the difference created between the coated and uncoated portions of the plate may be sufficient for the purpose; but if further density be still required in any part it may be obtained by tinting the matt surface either with a wash of carmine or of Indian yellow water color, or by applying black-lead by means of a soft pencil, or in the form of powder with a stump. The latter is most useful for large surfaces and for the lightening of shadows, the former when small portions only need attention. Such, for instance, are the high lights on drapery or on clouds, which do not remain sufficiently bright while the rest of the picture receives sufficient printing. If desired, the varnish itself may be rendered more or less non-actinic by being tinted with dragon's blood, gamboges, iodine, or chrysoidin, to any required depth.

Colored Varnishes and Similar Devices.

Other and similar methods are to flow the back of the negative with a plain collodion, more or less tinted with aurine, or with a varnish made of equal parts of white hard varnish and methylated spirit, with a few drops of castor oil and oil or lavender, colored with the addition of a solution of aniline yellow in alcohol. Neither of these is so convenient as the ordinary matt varnish, though either is certainly better than the messy expedients of dabbing the back of the plate with ordinary artist's oil-color, or smoking it over a taper and then wiping the portions on which the deposit is not required. Of these the former may be rendered more tolerable by the addition of a quick drying varnish to the color, and it is sometimes possible to varnish over the soot of the latter to prevent its smearing. But they are not processes to be used when better ones are available, and are only mentioned here as expedients to be restorted to in an emergency, for which, in photography especially, it is always well to be prepared.

Mounting the Tracing Paper on the Negative.

Next we have the covering of the back of the negative with one of the translucent papers before mentioned. If tissue is used it may be attached to the glass all over by means of starch paste well rubbed into it, or even with gum water or skim milk, though with the two latter it is not so easy to get the paper to lie flat and without wrinkles. The main point to be observed to avoid these is to see that the paper has expanded as much as it will do under the influence of the moisture before placing it on the glass. When dry, the tissue may be scraped off in the same way as the matt varnish, and leaves a soft edge, which is very suitable for landscape and portrait work. Color or blacklead may be applied to its surface as required.

Work on the Paper.

In preference to scraping, some workers prefer to render the paper transparent with vaseline, gum water, or a solution of hard paraffin in kerosene; but this is rather a messy way of working, and not so easy to keep exactly to the required boundaries. The *papier minéral*, or *vegetal*, or tracing paper, is best strained over the plate and fastened with gum or glue at the edges only, the required portions being then cut clean out with a very sharp knife. This gives a harder edge than the other method, but is very suitable for architectural work, in which there are definite lines to be followed.

Several Layers of Paper.

Some skilful workers will use two or even three thicknesses of paper, differently cut out, in this way, thus obtaining varying degrees of density as required, without the use of color washes or black-

lead. The operation is carried out by making actual outline tracings of the subject from the negative, cutting out the required parts, and then superimposing the sheets on the back of the latter much as a printer places his overlays for printing from a block or engraving. In the workroom of a well-known architectural photographer I recently say some very clever contrivances like small ground-glass tables, lit from beneath by electric light, to facilitate this tracing and cutting with the negative in a horizontal position.

The Most Suitable Papers.

In choosing paper for this purpose the French tracing, as it is called, should be purchased, as it retains its translucency well, and does not become yellow (and so more non-actinic) on exposure to light and air as do some other varieties.

In these processes, as will have been seen, we have an almost unlimited control over the densities and values of different portions of the negative.—*Photography.*

NIAGARA FALLS CONVENTION PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

A report having been circulated to the effect that Niagara Falls could not properly care for our National Association, I take this method to refute same.

When the Executive Board was called for its annual meeting, there was some question as to where it would be held, owing to a recent fire, which destroyed two of Niagara's hotels. Your Board found upon fullest investigation, that the loss of these two houses could make no material change in our plans, as the remaining hotels and private rooms were abundantly able to care for a convention double the magnitude of the Photographers' Association of America.

However, the ruins are being cleared and a new and more modern Imperial Hotel will replace the old one before the date of our annual convention. We have secured such rates that there can be no question of fairness or the old cry of Niagara graft raised, which your Board very carefully sifted, and found no just cause for complaint on that score.

The official headquarters, Cataract-International Hotel, have made us most liberal rates, three to five dollars per day, American plan, the latter rate includes private bath, and about one hundred rooms at three dollars, American plan, is certainly so reasonable that you cannot afford to stay at home or away from Headquarters.

Other first-class hotels have made the following rates:

The Clifton (Am. Side)	$2.50	Amer.	Plan.
Tower Hotel	2.50	"	"
Empire Hotel	2.00	"	"
Temperance House	1.50	"	"
Temperance Annex	2.00	"	"

Also a large number of rooms in private homes, 50 cents up.

You will wish to see the wonders of the Falls, which can be thoroughly done under three dollars. The leading points of interest being:

The Gorge Trip	$1.00
Cave of the Winds	1.00
Maid of the Mist	.50
Reservation and Island drive	.15
Down the Incline	.10

Should you desire the use of a carriage or hack, the fee is one dollar per hour, as reasonable as prevails in any American city. In addition, special rates will be made for trips to Toronto and the Thousand Islands. Buffalo, twenty-three miles distant, is reached by train or trolley, at fifty cents for the round trip.

These facts and figures should refute all claims of graft, and you may be assured that your trip to Niagara Falls Convention will be one of small expense and large returns for the money invested.

Everything considered, your Board are

unanimous in the opinion that Niagara Falls will live in our history as the most ideal place to which we have been sent. The magnificent scenery and the social life to be enjoyed in our being called together for a full week, the untold value to our financial success in attending a convention, planned as educational in a business sense, as well as a fine art display, indicates that it will do you great good and be of lasting benefit in the future conduct of the business end of your profession.

FRANK W. MEDLAR,
Secretary.

TRADE NOTES.

A BIG flash is produced with a very small amount of the Victor flash powder manufactured by Jas. H. Smith, 306 41st Street, Chicago. From actual tests we were much surprised at the wonderful actinic qualities of this new powder. Photographers looking for a powder with the maximum amount of illumination with the minimum amount of smoke would do well to give this brand a trial.

WE gather from the *New York American* that the late Paul Nocquet carried a Kodak with him on his last fatal balloon trip, which in itself is not remarkable. The remarkable fact was that when the camera was found it had been soaking in water and mud for some hours; when the films were taken out and developed the six exposures gave printing negatives none the worse for their rough treatment. This is a striking testimonial for the thoroughness of construction and reliability of the Kodak.

THE Eastman Ferro-Prussiate Post Card—the card with the Delft china effect, seems to have caught on. It is a most effective card for printing cloud effects. For the tourist who is looking for a simple process, these cards offer quite the simplest process yet. They print in the sun in a few minutes, and are finished by washing in cold water.

TRIER & BERGFIELD, the well-known mount manufacturers of New York, have just issued one of the finest catalogue or book of styles we have yet seen. Contained within its handsome embossed red and gold covers is a magnificent assortment of mounts of every size, grade and color.

A glance through its pages is a liberal education in the art of mounting. We would advise our readers to send 25 cents, to cover express and packing charges, and secure a copy of this sumptuous book.

The new factory erected by Trier & Bergfield, at River Avenue and 151st Street, New York, is a model of its kind, and is equipped with the latest and best machinery for turning out the highest quality of work with economy and despatch.

THE dealers are showing two handsome new albums recently issued by the Kodak Company, the "Artists" and the "Lakeside," the former is made on the loose-leaf system, enabling you to insert extra leaves or tissue at will. The front cover is designed with a panel for your own special lettering, the leaves of rough-finished heavy stock give the prints quite an artistic effect. A sheet of tissue keeps the prints from rubbing and adds to the general appearance.

The "Lakeside" album is made in four sizes, the leaves and cover being in black only. Either album will make an attractive and convenient holder for your presentation prints.

"GOERZ LENSES" is the title of a neat little catalogue just received from the Goerz Optical Works. Its foreword on "The Selection of Lenses" gives a simple rule for the method of determining the focal length of a lens allowable in operating in rooms of limited length. This alone makes it worth while the writing in for a copy.

The new Goerz products are listed and described in detail, two pages being devoted to the new model Goerz-Anschutz cameras.

The catalogue contains some pictures of remarkable high-speed photography made with this camera fitted with the speedy Celor lens.

THE YUNIT CHEMICAL COMPANY, of Rochester, N. Y., is putting out a line of exceptionally good paper and chemicals. Some of their Yunox paper we tried recently was remarkable for the deep rich shadows combined with brilliant high lights, seldom obtained with a developing paper. The dozen negatives we printed from were widely different in their printing qualities, and were a severe test for any paper. Yunox, however, produced more than the average number of good prints.

The latest product of the Yunit Company is a lantern slide plate, for which is claimed many good qualities possessed by no other plate. This company prepays express charges on all orders, and a great advantage in ordering direct from the factory is that all goods sent out are absolutely fresh.

THE arc lamp is coming more than ever into daily use in the studio. A new lamp introduced by G. Gennert is the Woodward Actinic Purple Ray Lamp. Small and of a neat design, it burns with a purple arc, giving an illumination of 3500-candle power at a cost of from 12 to 15 cents per hour current consumption. The light is of such intensity that it is possible to get fully exposed negatives with exposures of less than one second. Retailing at $45.00, the lamp gives photographers generally a means of producing good portraiture without the aid of a skylight.

Platinum prints can be made with this lamp in about ten minutes, and Aristo prints in about double the time. A convenient printing cabinet (which can be taken apart and stored away when not in use) is offered for use with the lamp, carrying twenty-four 5x7 and six 8x10 printing frames at one time. Those who are interested in the light can see it in operation at G. Gennert's showroom, at 24 East Thirteenth Street, New York.

EDITOR'S TABLE.

WE have had several complaints lately from people who have paid for a subscription to this magazine to a canvassing agent, who claims to represent the United News Company, of Chicago, and who have received nothing for their money.

We regret that they have been defrauded, and can only repeat that this magazine employs no canvassers, and subscriptions can only be received direct or through reputable stock houses. Any offer of the magazine at less than its regular rate of $3.00, especially with a premium thrown in, should be investigated before any money is paid over.

UNDER date of April 14, Mr. A. T. Barraud, of Brookline, Mass., some of whose children's pictures we had the pleasure of reproducing in our last issue, writes "The reproductions are excellent. Could not have been better."

We are glad our engravers gave Mr. Barraud such satisfaction. We are sure that the pictures gave our readers much pleasure.

As we go to press the reports of the San Francisco catastrophe are coming in. Mr. Otto Boye, three of whose child studies we reproduced in our last issue, will undoubtedly have lost his studio, which was on Market Street. Details are yet lacking, but we hope to hear of his personal safety. We extend to him and the photographers of San Francisco our sincere sympathy.

THE Birmingham *News*, Ala., pays a well-deserved tribute to the quality of the work of the students of the Southern College of Photography, of McMinnville, Tenn., an exhibition of which was made at the Tri-State Photographers Convention, recently held at Birmingham.

Mr. Lively reports that the school is growing more rapidly than ever. This is another evidence of the possibilities of the awakening South.

ONE of our subscribers in Texas who wrote in to say that he had not received his copy of the magazine, wrote the following day to say that it had been received, and took the occasion to say, "As usual, it is full of 'good stuff.'" Thank you, Mr. Dawson.

FROM the Feldman Studio, El Paso, Tex., we recently received a parcel of photographs, some of which we have much pleasure in reproducing in these pages. What we wished most to reproduce, however, is impossible—we mean the general appearance of the parcel and its contents. The eight prints, all of an excellent quality, were printed on rich plate-sunk papers; the sepia platinum prints were tastefully mounted on well-chosen cover stock. The larger prints being inserted in a rich dark-brown shade of cover paper, even the brass binding clips being carefully shaded to match the cover.

Nor was the outer covering neglected, the wrapping paper being of good quality in a nice shade of gray, the parcel being fastened by a narrow tape matching the color of the paper.

The whole effect was bound to create a good impression on the customer, even before the pictures were examined. It was good work artistically presented in every detail.

We feel sure that if more photographers would put as much care and thought into their work, high prices would be the rule and not the exception.

WE also received parcels of pictures from the Shafer Studio, of Fairmont, W. Va.; F. Crosier & Son, Readsboro, Vt., and Mr. John Terras, of Markinck, Scotland, all good work and measuring up to a high standard of photography. We are glad to have seen the work, and our only regret is that we are unable to reproduce a greater proportion of it.

PORTRAIT

J. Savannah, Victoria, B. C., Canada

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. JUNE, 1906. No. 594

ATTENTION!

NEWS FROM THE FRONT FORETELLS A BOOMING CONVENTION AT NIAGARA FALLS, AUGUST 7, 8, 9 and 10, 1906.

LOCATION.

NIAGARA FALLS needs no pen pictures to tell of its charms as a place of recreation or rest. During the heated months probably no spot on earth entertains more people from all sections of the globe. To those who have had the pleasure of stopping at this famous resort, they are the ones most desirous of returning. Those who live in anticipation of visiting this historic scene, especially of our fraternity, should avail themselves of this opportunity to combine recreative pleasure and wholesome interchange of thought, along the lines as will be presented by the *Photographers Association of America.*

POLICY.

This year's convention assumes a new departure from the well-trodden paths of past meetings, in the fact that business methods are to prevail, as against the older theories of crowding art to the front to the exclusion of the vital business principles so essential to a well conducted and successful studio.

The foregoing must not be implied to mean that art will be neglected, but on the other hand it is to be carefully cared for in various ways, making itself apparent at all times during the convention.

Open discussions are to be encouraged, and it is to be hoped much interest will be manifest, that through this channel knowledge may be imparted. It is always the practical things that are taken home with you, the visionary theories are left behind. Come prepared to tell the good things you know to your neighbor.

EXHIBITS.

It is not too early to announce that the pictures to be exhibited this year will be pictures of quality, such as will afford a lasting interest to the best students of our profession. Let every interested member of the Association, who

has not already made known his good intentions, prepare a few pictures for this grand collection.

SALON.

Remember the twenty-five pictures which are to be selected for Salon Honors. One picture only to be taken from any one studio collection. Such selected pictures to be further honored by being published (with consent of owner) in next year's *Review,* the Association annual. Portraits, studios or views will be considered in this selection. Why not be one of the twenty-five? This means you.

COMMERCIAL.

Since the organization of the Photographers' Association of America there has been combined, with the support of photographers, the loyal support of manufacturers and dealers, and this Association desires to be placed on record as appreciating the continual and harmonious blending of interests.

The history of this Association, now in its twenty-sixth year of usefulness, working upon a sound financial basis, representing the largest and most influential photographic association in the world, will cause the P. A. of A. to count the commercial as well as the artistic needs of photographers.

HOTELS.

The Cataract-International Hotel, situated on the bank of Niagara River, near the Falls, will be headquarters for the 1906 convention. In the Cataract section of this hotel will be the manufacturers' exhibits, the art exhibits, and the lecture-rooms for daily sessions, with ample room for all. Most of our members will be registered in this section of the hotel, rates being from $3 to $5 per day on the American plan. Our committee would like to have members of the Association, if agreeable to them, in the Cataract section of the hotel, that we may be able to exclude all strangers and control the hotel as our own. This has been guaranteed to us if we can fill it. *Let us try.*

Many other hotels which have been previously mentioned in the journals at lower rates, all American plan, are to be recommended.

RATES.

Arrangements have been perfected for reduced rates covering the United States and Canada, from the Atlantic to the West, including Colorado, Texas, Kansas, Nebraska and the Dakotas. Parties west of these States can purchase tickets to mentioned State lines, and from there on secure the reduced rate.

The rate granted is on the certificate plan, one rate going, one-third fare returning. When purchasing tickets at starting point, ask for certificate which will be given you by your ticket agent. Upon your arrival at Niagara Falls, this ticket must be deposited with the treasurer, F. R. Barrows, to be validated by joint agent. A fee of twenty-five cents will be charged upon delivery of validated certificate. *Don't fail to secure these certificates from joint agent before close of the convention.*

This validated certificate is to be presented to ticket agent for return trip, and in exchange for same the holder will be sold a return ticket for one-third fare. These certificates will in no case be honored if presented by other than the original purchaser. Going tickets may be purchased from August 3d to 9th, and validated certificates will be honored to August 14th, inclusive.

Note: In no case accept receipt for money paid for going ticket instead of certificate, as it will not be honored by railroad agent at convention. If ticket agent is not supplied with certificates, he will inform you of nearest point where one can be secured.

MEMBERSHIP.

Any person desirous of becoming a member of this organization, who is a studio proprietor, or employer of help, shall be required to pay a membership fee of $3.00 and one year's dues of $2.00, a total of $5.00. Send above amount, with full name and permanent address, using street and number, to the Treasurer, F. R. Barrows, No. 1873 Dorchester Ave.,

Boston, Mass. Employees are only required to pay the annual dues of $2.00, but in making application for a membership must furnish letter of endorsement from employer.

DUES.

Members in good standing are required to pay their dues in advance of our meeting. This will save you a long wait at box window, and will materially lessen the arduous duties of your Treasurer. Send dues to above address and *do it now.*

ENTERTAINMENT.

This feature of our convention is in the hands of a capable committee, who are planning a good time for everybody, both ladies and gentlemen. No place offers more attractions to help them in carrying out their plans. Come and help them to make merry.

GUARANTEE.

Back of all promises our committee is making, regarding this convention and its accommodations, stands the guarantee of Mayor Cutler, of Niagara Falls, a man who will see that no extortion of rates shall be practiced upon our people.

The citizens as a whole are determined to overcome all past prejudice regarding unjust charges.

This week will be *photographers' week* at Niagara Falls, for the mayor told us so.

Will you be with us?

Fraternally yours,

F. R. BARROWS,
Treasurer P. A. of A.

NATIONAL RELIEF FUND FOR CALIFORNIA PHOTOGRAPHERS.

AT a meeting in Boston, May 6, 1906, of the California Photographers' Relief Fund Committee, which was inaugurated in New York, April 20th, and the National Relief Association for California Photographers, which was started in Boston, April 27th, it was resolved and decided that the two committees should act jointly under the title of the NATIONAL RELIEF FUND FOR CALIFORNIA PHOTOGRAPHERS, and that no photographer in this country who has the interest of his suffering California brothers at heart need hesitate to give what he can to either source of appeal, or to both, for the final distribution will be made by the joint committee, to the end that every dollar will go honestly and with strict business care and watchfulness where it is most deserved and needed. As this union of committees is of a national character, all other committees of the country are invited to send their contributions to either treasurer, Joseph Byron, Treasurer, 53 West 32d Street, New York, N. Y., or Frank R. Barrows, Treasurer, 1863 Dorchester Avenue, Boston, Mass.

N. Y. Committee—B. J. Falk, Theodore C. Marceau, E. B. Core, Pirie MacDonald, J. G. Gessford, A. F. Bradley, F. E. Baker, Curtis Bell, Sec.; Jos. Byron, Treas.

Boston Committee—W. H. Partridge, M. B. Parkinson, Jo Di Nunzio, H. D. Haight, C. W. Hearn, Will Armstrong, Sec.; Frank R. Barrows, Treas.

VARNISHING PLATINOTYPES.

IT is well known that occasionally platinotypes present a sunken-in appearance, and various remedies, such as the application of negative varnish, encaustic paste, or shellac solution, are recommended. The disadvantage of the varnishes is, as pointed out by Valenta in the *Photographische Korrespondenz,* that they frequently give a tinge of yellow to the whites, and he recommends the following to obviate this:

Sandarac	1 ounce
Benzole	4 ounces
Acetone	4 ounces
Absolute alcohol	2 ounces

This may be painted over the print, or the print immersed, and then excess of the varnish removed by blotting off with clean blotting paper, and then drying.

HIGH IDEALS IN ART, SANITY IN BUSINESS.

BY CHARLES WESLEY HEARN.

A Paper Read Before the Pennsylvania Photographers' Association at the Washington Convention.

In the practice of professional portraiture it is incumbent upon us all, as representatives of an art in whose hands its welfare is at present placed, that we should primarily have its advancement in dignity and importance very much at heart, and this, not in any lukewarm manner, for it should permeate through every fibre of our body, an ever-present power to force us, if a worthy trustee, to properly conserve the trust reposed in us. Our work should always be made upon honor.

That esteem and respect of the public in photography *per se,* as in other vocations is obtained only by their having a knowledge and due appreciation of the progress made toward a continual advancement for higher ideals. Added thereto is its being a vocation of the most vital interest to every family in the world. If by any means it should become impossible to reproduce likenesses by the aid of the camera it would be a calamity of such universal importance that even the recent horror of having one of our largest and most beautiful cities practically wiped out of existence in a single day would be as nothing in comparison.

In connection with this recognition of the public of the present standing and future possibility of photography as a very young and beautiful art, and of its being a necessity to the world's comfort, we must on broad lines not lose sight of the fact that the personality of those engaged in it has much to do with the esteem and respect of the public, which is as vital to us as in other professions. In our own particular case it is a very potent factor, and one worthy of most serious consideration by all.

It is not my intention at the present time to dwell more than a moment upon morality and correct deportment under the light, when commonsense tells us all what should be done. It is a mystery to me, and always will remain so; how anyone can live continually a life of general debauchery, and have the nerve to pose refined women and their carefully reared daughters. The intuition of a woman is proverbial, but I do not think her gentle tolerance under trying conditions receives the praise and appreciation that it should. Of such women are our mothers, sisters, wives and daughters, of whom we are very solicitous that they are never brought into a tainted atmosphere. Others have similar feelings. We should never, under any circumstances, engage as an operator to handle our customers a man who we consider unfit as a man to dine under our roof with our family.

One of the more common breaches in our personality is a woeful lack of an appreciation as well as practice of that professional courtesy which all of us have often noted in our intercourse with other professions. This may appear to some as a matter of little importance, and in the hustle of business and sharp competition that any and all methods are excusable; but sooner or later I have noticed that *extreme unprofessional* methods, if continued in, always react against those who practice them. It warps, distorts, and renders hideous our personality to all persons of refinement with whom we come in contact, making us contemptible in the eyes of our patrons, help, even at times our family, and probably ourselves, as well.

When we consult a doctor, lawyer, dentist or almost any other *representative* professional man, we rarely ever

hear any disparaging word spoken by them of their fellows. They are courteous, attentive to their needs, and seldom mention each others' names, unless necessary, and then only by way of acquiring that information pertinent to the matter in hand. Rarely indeed do they criticise or even comment upon their professional or personal standing. If anything is said at all, it is in commendation rather than otherwise. It is not done in that indirect way of doing harm—cold lukewarm words, the method of expressing being worse that the words themselves. These men of other professions will not even take your case in hand, unless of vital importance, and then only for the time being, if some other member of their profession has the matter in charge but is not available at the time.

I can well illustrate this, by giving an incident that occurred in my own family.

When my daughter was an infant she was troubled with a sore scalp, which the doctor—of considerable experience and ability—could not seem to cure, the child being very frail and weakly in consequence. One day Mrs. Hearn's father—a doctor of great experience and large practice—came on from Philadelphia, to the city where we lived, to see us. He had hardly entered the house before he saw the child, and immediately raising her in his arms, took her to the window to look at her, and without having taken his overcoat off, left word to telephone the doctor to come, and went himself to the drug store, where he had made what they called a "tar cap," and placed it on the child's head, who, from that moment commenced to improve and was soon well.

The profuse apologies and explanations which my father-in-law made to the doctor when he came, and later suggested his trying this remedy for a day or two, are still very present in my mind, but I remember very distinctly hearing him state that the color of the child's face was such that it made it imperative that something be done at once. The treatment was new to the local doctor, and he thoroughly appreciated the interference, and continued with the case until complete recovery.

Here was my first lesson in professional courtesy—a case of life and death—and yet as careful as he could be not to interfere again while visiting us. He insisted that the doctor should call as usual, and Mrs. Hearn was made to feel that her father had nothing to do with the case.

Similar examples of this courtesy, and most careful avoidance of anything that could be construed in the slightest as unprofessional, are known to us all.

Why in the world should *we* not be careful? Do we wish to confess that as a class we are less honorable?

Let us learn to put a curb upon our tongues, and when we get beaten in competition with others in any special line, when we are arrayed against each other, *let us stay beaten* till something new comes up. Be a game loser and a modest winner. Whenever we lose an important competitive bit of work, it is always of value to us to ascertain the reason why and how it was accomplished. This, as a matter of business, should not be neglected. After ascertaining, then drop it and look after something else.

A valuable asset in any business, photography included, is its financial success. The return may be obtained in making work upon honor, and for that matter upon dishonor as well. It may in addition be obtained by gross frauds, imposition upon the public and contemptible methods, of doing business, etc.

The difference between them all consists in the degree of honor employed in the methods of the studio.

It is the case, also, that there are many engaged in photography who care not a button for the art, but who, as honorable men, do conduct on a whole a clean and honorable business, purely and simply for the money there is in it. Some of these running a successful business because they are good business men, may, in the estimation of those they trade with, and the general public appear in by far more favorable light than he

with higher ideals but less business success, and I see no reason why, in many cases, this should not be. Their success is mainly because they are possessed of "sanity in business." They may or may not have much of a love for the art side of photographic work, but it is fair to presume in the majority of cases that their financial success, if continued for any length of time, is largely caused because they show and maintain a certain technical excellence, which, in the mind of the great majority of the people, is more preferred than work made on pictorial lines.

How to make our own individual business more of a success is what concerns us all. In this connection it seems that an analysis of the business, as a whole, and particularly of ourselves as managers of the same, as being very important.

It is a problem for us to study and find out the cause, similar to that employed by a civil or mechanical engineer to overcome existing conditions and create a desired result. The pruning, and even the surgeon's knife, may be found necessary to restore healthy conditions.

During this analysis there is at times an undue amount of attention given towards increasing the gross amount of sales each year to the exclusion of more properly conserving that which we already possess.

It seems often the wiser course to use the methods of the surgeon who, with knife, cuts very deep than with the pruning knife to lop off trifles, unless they be many and in the aggregate very harmful.

Given a gross amount of business each year, say from about $5,000 upwards, it is possible that it should be done with profit and to live in a modest way out of it. If the amount is two or three times larger, and is not yielding a very good percentage of net returns, then it is more fitting for the proprietor to here give his first attention to investigating and improving existing conditions, than to try and increase his gross amount of sales, which would be of no particular value.

If a good profit is obtained upon what you do, then probably your system is correct, and attention could be given towards increasing the output, which should be productive of a larger per cent. of returns, as many of the expenses of a studio such as rent, etc., are permanent, and would not vary much unless radical changes were made.

The trouble with many photographers of the better grade (and those who attend conventions belong to this class) is that we are very poor business men, or, what amounts to the same thing *in result,* is that we do not give the business end the attention that we should.

We frequently allow outside matters to dominate our attention to the detriment of our business; when this is the case, we should as soon as possible draw out of this condition of things.

Again, with those who make their own sittings and much of the other work of the studio, it is hard to find time to develop the business.

The economical employment of time, our own as well as our assistants, with a good system of accomplishing this, would largely help us to get some time each day to give to this matter. If we employ operators, then it should be easy of accomplishment.

One very good and impressive way to increase sales is by the work under the light, and if care is taken and good judgment displayed it could be most effective. When you have patrons who are able to pay anything in reason for worthy things, arrange to make different things *in addition* to what they desired in the first place, but make them "winners," something that will be sure to please. They may in the first place have thought only of having work of the value of five or ten dollars, and even a smaller amount, to fill a want for photographs that has come up. It rests with you, in addition to the supplying of this demand, to enthuse them by the result of the sitting, as shown by the proofs submitted. When through with them under the light —and this should be done within a reasonable time—tell them that you would appreciate it greatly if they could call

the next day, for you would like to look over the proofs with them. Mention that you have in addition made something a little different from what they desired, because it appealed to you as presenting great possibilities, and you would in consequence like to see how they came out, etc. Do this, and if you are personally a good salesman, you will sell the goods; if not, let your expert receptionist do so. Everyone likes to receive personal attention, and everything that savors of that, especially so if it impresses them that it is unusual on your part. By this means you see them *first* when they receive the proofs, which is always an advantage, as you have an opportunity to adjust any adverse opinion as to their merits, before their friends have possibly raised a feeling of dissatisfaction, which is hard to eradicate afterwards. It also enables you to coach them as to what changes could be effected to improve them, which information could be conveyed by them to those who sit in judgment over the results of your labors.

In this connection, I am strongly inclined to think that it is inadvisable, when a would-be patron comes to our studio to make an appointment for a sitting, to do anything more *at that time* than to show her an assortment of interesting things, leaving the matter of final selection and the exact decision to be made later.

In a general way, if information as to prices is asked, quote them clearly and carefully, so there will be no misunderstanding come up or the integrity of the studio questioned. When the patron comes to fulfil the engagement, ascertain her wishes, *secure your deposit,* and arrange, if possible, to have them bring in the proofs, *at which time only, should sales be made.* If this cannot be done, then make the sale at the time of sitting. Results are always most successful, by personal intercourse, when the proofs are returned, otherwise you endanger the success of your "building methods" under the light.

I mentioned a short time ago about having the patron come in next day to look over the proofs with you. If possible make an appointment with them for the purpose, say from 4 to 5 or 6 P. M., when the sittings for the day are over, *and let this hour or so be devoted daily towards increasing your output.* This would be one of the directions in which it could be done, being the simplest, most effective, and economical. I often hear of patrons coming to a studio and not being able to see the proprietor, because he is busy developing, a most ridiculous state of affairs; neglecting something that might increase his sales for that which could be done at another time.

If you have a tactful and efficient saleslady your presence will not be asked for, unless important. Do not 'phone downstairs that you cannot come, as you are "busy with your chemicals," etc.

One of the most successful men in our profession to-day—one who is also famous as a workman, has for years made it a point to be at his studio certain hours the later part of the day. On one occasion, when in that city for a day, I went to his studio about 5 P. M., to talk with him prior to a dinner appointment we both had. While waiting for him to be at leisure, I saw him angling and finally secure an order for a large picture and frame for $150.00 from a customer who called to see him by *appointment* to talk over his sitting of the day before.

This is the result of a system founded on good lines. With a haphazard way of doing things, the proofs may have been mailed, and my friend have been developing. The opportunity for which he planned, would then have been lost.

The Niagara Falls Convention is designed to help you all, on the lines that are needed.

The avenues for greater business success are many, and it will be impossible for us all not to profit by this coming National convention, for many of these roads will be traveled.

For instance, there is one matter that is of the most vital importance and yet I very much doubt if there are many of us here who have more than a vague

idea of how much it costs to make our pictures. We say the paper costs a few cents, the plates exposed so much more, and the retouching twenty-five or thirty cents, the mounts, say, another small amount. We jump at an estimate for the cost of the other chemicals, and there we rest. If it is insisted upon that we go further into the matter, we confess we have the rent and other fixed expenses, and the help to pay, but we have no clearly defined idea of how this could be estimated. Many do not go into such depths of bookkeeping as to try and see just what a business yields or to get a correct estimate of what pictures actually cost with *all of these expenses proportioned out,* consequently we are not in possession of any *data* upon which to estimate what we can make pictures for.

The wool or cotton merchant is accustomed to figure upon the eighth of one per cent., and figure large transactions upon the most narrow margins, and is successful, and here in contrast are some photographers who have no clearer idea of what their pictures are costing per dozen than a child five years old has of the cost of a toy she is playing with.

I expect to have very clear and helpful facts presented at our convention by various able speakers, of exactly how this may be accomplished, which will be made very plain to you.

Again: Sane business methods demand also that we make pictures such as the public wants. It is a mistake to think that, as a whole, any large percentage cannot appreciate good pictures.

Again: We can make a misfit of our business as we may have misfits in clothing. Trade usually flocks to certain localities for certain things. The wealthy, the middle class, and the poor alike, all do this.

It would be a misfit for a photographer capable only of making work of an indifferent quality to locate in a section of a city patronized only by persons of refined tastes. Equally bad would it be for our best artists to open a studio in a locality patronized by people of less cultivated taste or by bargain hunters. Yet these mistakes are made every day. A superior workman will be sometimes hunted up by persons who appreciate his ability, wherever he may be located, but he is seriously at a disadvantage at best.

Stand at the entrance of your studio half an hour at different times of the day, and extend it over a matter of two or three weeks, and size up the people who pass. Try to gauge their ability to pay for pictures. As a class would it be the $3, $5, $8, $10, or $12 per dozen pictures that they would be likely to have? Is the product of your studio in harmony with the trade? Unless your ability is such as to draw trade at better prices from elsewhere, then you are face to face with a proposition of making a sufficiently *appreciated* superior picture to those around you, to obtain the trade that comes to that locality, ***but the price of that product must at some time be practically the same as the others.*** If your ability is such that you appeal to the more cultivated class, then, with those who can afford it, the price charged is not of such importance as is the value of your ability as an artist.

In conclusion, I would say, that in this business convention at Niagara Falls, *I think* I am safe to say, that it is very probable that, as things look now, we shall, without exception, have the finest and largest collection of pictures on exhibition both from this country and various parts of Europe that have ever been gathered together at a professional photographers' convention. These pictures will be a delight for us all, and will be our art instruction.

Equally attentive and alert are our board of officers, to see that the most valuable information pertinent to our future business success is presented to you, and that not in any loosely, disjointed manner, but in a systematic way, and we hope with hits made and points scored. As chief executive of these officers I earnestly ask your cordial support in pictures contributed, personal attendance, and active participation towards this desired success.

RETOUCHING.

LECTURING on this subject at a recent meeting of the North Middlesex Photographic Society, Mr. H. G. Stollard gave many valuable hints. The following points will interest the beginner:

1. When applying the retouching medium see that the edge is softened, otherwise it might show in the print.

2. When working only have a small piece of the negative visible, as this conduces to comfort and ease.

3. According to the strength of negative, use various surfaces for reflecting daylight.

For dense negatives use a mirror.

For medium negatives use a white board.

For thin negatives use a white dull board.

4. For working by artificial light hang from the retouching desk a sheet of tissue paper. Behind this a candle may be placed.

5. A magnifying glass of about 6-in. focal length, large enough for one to be able to look through both edges, should be used for small work.

6. Pencils.—Hardmuth's or Faber's BBB to HHH are preferable. They are best used in a holder, so that a long fine point can be secured, as this is necessary to enable the worker to see where he is placing the lead.

7. For reducing densities, small retouching knives, costing 6d., and medical dissecting knives, both blunt and chisel-pointed, are useful.

8. The negative should be printed as progress is made.

9. No particular stroke is necessary, but that which serves the purpose of the moment must be used. On the hollow of a cheek a useful method is to make the figure 8 horizontally without lifting the pencil. The small shadow running from the nose to the side of the mouth can be filled in with commas.

10. Attention should be paid to the catch light in the eyes, which should always be of wedge shape with the base of the wedge towards the source of light.

11. In working on the eye, be careful not to obliterate the red spot in the corner.

12. In portrait negatives the smaller the head the finer the work must be done.

13. From time to time as work progresses look at the negative from a little distance and see if defects have been removed and modeling secured.

14. Take out spots first. Then work on the high lights on the forehead. Watch the two prominences above the eyes and preserve the depression which lies between them. The strengthening of the high lights adds relief, which is all important.

15. Texture.—This must not be lost sight of, and it should partake of the nature of the original. Study good engravings for knowledge.

16. Lips.—See that the high light on the lower lip is present. Adjust the curve. Remove the shadows which run downwards from the ends of the mouth. Very red lips require the shadows between them lightening.

COPYING PRINTED MATTER AND MANUSCRIPT.

A WRITER in a German paper which is devoted to "Bibliothekwesen," suggests the following method for copying manuscripts or books, and it is certainly a good idea. The book or other object is laid face up on a table, and above it, at an angle of 45°, is placed an ordinary bedroom looking-glass, and the reflection in this focussed in the camera in the ordinary way. Instead of using plates, a smooth-surface bromide or negative paper should be used, and the result will be obviously white letters on a black ground, and if exposure and development are properly carried out, they will be as legible as black on white, and there is no need to make a further print.

REMOVING AND TRANSFERRING GELATINE FILMS FROM CRACKED NEGATIVES.

BY A. J. JARMAN.

In the regular work of a photographic printing establishment, where a large number of negatives are in daily use and being handled by different people, although great care may be exercised, accidents will occur and a valuable negative is liable to get broken or cracked. If the crack is in the glass only, and the film is not affected, the usual plan is to place a piece of albumen paper over the front of the negative, covering this with a piece of clean glass of the same size, the whole being held in position by binding the edges with strips of gummed paper; or, if albumen paper is not at hand, a piece of aristo-platino paper from which the sensitive coating has been removed, by placing the paper in a clean solution of hypo, indication 20 by the hydrometer, allowing the paper to soak for ten minutes, then washing well in running water for a short time, blotted off, and as soon as dry can be used in place of the albumen paper. Although this answers quite as well the printing process is greatly retarded.

Any good reliable method by which the film itself could be removed and transferred to another piece of glass would prove to be of considerable value to the photographer. Only a few days ago the writer performed the operation of removing a film from a cracked negative and transferring it to another piece of glass before the Ohio-Michigan photographers at their convention.

Before attempting the removal of the film from a valuable negative a few trials should be made with discards to enable one to become familiar with the operation.

In the first place it will be necessary to harden the film by soaking the negative in a strong solution of chrome alum, one ounce of alum to ten or twelve ounces of water, and filtering. If the negative has been retouched, which most likely would be the case with a portrait, the retouching medium must be removed either with turpentine or benzine and the surface wiped quite clean with a tuft of absorbent cotton. The negative must now be placed in the alum solution for twenty minutes. It must then be removed and washed for fifteen minutes and allowed to become quite dry. The following solutions must be made up in separate bottles:

No. 1.

Commercial fluoride of sodium	½ ounce
Cold water	12 ounces

No. 2.

Citric acid (powdered).....	¾ ounce
Cold water	12 ounces

These will keep in good condition for some time.

To remove the film, take equal parts of No. 1 and 2 by measure; place the mixture in a hard-rubber tray. If the negative is 5x7, four ounces of No. 1 and the same quantity of No. 2 placed in a 6½x8½ tray will answer the purpose. Have at hand a clean glass plate 8x10, wet it under the faucet, pour upon the surface a small pool of gum arabic solution—one ounce of gum arabic dissolved in five ounces of water. Allow the gum to flow over the surface of the plate, then wash it in a gentle stream of water; only a very small trace of gum is needed to cause the perfect adhesion of the film. Lay this plate in a level position.

Now place the negative to be stripped into the fluoride mixture; rock the tray occasionally. It will be found in the course of a minute or so that the film will show signs of lifting at the edge. Now lift the film from the cracked plate with the forefinger and thumb of each hand; then lay it down upon the gum-wetted plate; adjust the film with a small

camel's hair brush and see that it lies perfectly square; then take a piece of paper, wet it under the faucet, drain it slightly, and lay it down upon the film, holding one end with the left hand; apply a very soft india-rubber squeegee over the paper—do not press too heavily; repeat the operation in the reverse direction. Turn the plate over to ascertain whether there are any air-bubbles; if there are, a careful application of the squeegee will readily remove them; if there are none, the plate may be laid aside in a horizontal position to dry. It will be found that if the film has been carefully hardened that the total expansion will not exceed one-eighth of an inch.

As soon as the film has become thoroughly dry it should be varnished with a good quality of negative varnish, or it may be coated with amyl-acetate collodion. The reason for coating the film with varnish is to cause it to become filmly attached to the glass plate at the edges, because where the film had been hardened there is a tendency to lift at the edges, which at times will give trouble in securing complete contact. The mixed solutions must be thrown away after use because the stripping qualities are lost.

The real action which takes place to cause the lifting of the film is due to the liberation of fluoride. This element in contact with water produces hydrofluoric acid, which, in turn, very slightly attacks the surface of the glass through the pores of the gelatine film, thus releasing the hold of the film upon the glass, while citrate of sodium is formed and remains in the water.

The hardening of the film previous to the stripping is of the utmost importance. If this precaution is not taken the gelatine film will become enlarged to a considerable extent by the absorbtion of water; in fact, it is not a difficult matter to enlarge a film from a 4x5 negative to 5x6; should the negative happen to be a dense one the enlargement presents a decided improvement. The object in using a larger glass plate to place the stripped film on is to give the operator more freedom to adjust, while as soon as the whole operation is complete the plate can be cut to the required size. If a considerable number of prints should be required in carbon the above method of stripping and reversing the film, so as to produce a reversed negative for single transfer, will at once recommend itself.

The carbon process appears to be coming very much to the front, and is likely to become more widely adopted, because the price of platinum and platinum salts is on the increase. The rise in price is likely to continue because the yearly production of platinum is very limited, while the demand for it is constantly on the increase not only in photography, but for commercial purposes. Should the price of platinum continue to rise, it may became too costly to use in photography, the carbon process would then become the only one that could be thoroughly depended upon for permanency and the demand for reversed negatives would be considerable in such a case. The process described will prove invaluable for the making of reversed negatives.

Many times the photographer requires a considerable number of clean glass plates for use in the printing frames, ranging from 5x7 to 11x14, and the tedious work of cleaning off old negatives by using a mixture of potash lye or soda with hot water is resorted to. There is no better plan to be found for this kind of work than the one described using, of course, the liquid in greater bulk. The writer has worked continuously for several hours without any apparent injury to the hands bevond causing the skin to turn yellow. After the work of stripping was completed the hands were washed in lime water, the object being to convert any trace of weak hydrofluoric acid into fluoride of lime and thus neutralize any deleterious effect the acid might possess. The use of india-rubber gloves might be used in this instance with advantage if a large number of plates have to be cleaned. When plates are cleaned by

this plan, as soon as the film has been removed, the plate is placed into a large tray of clean water until it is filled, the plates are then wiped with a piece of clean rag in a stream of running water and placed into a rack to dry. Sometimes a few of the plates will present a bluish tint upon the surface, but this will not interfere with the use of the plate as a negative support. The only plates that may have to be discarded will be those that possess what appears to be a permanent sulphide stain, which usually occurs with those plates that have been allowed to stand and the hyposulphite of soda has crystallized upon them. If a hard gelatine substratum has been used it will not matter, both substratum and film can be removed, the plate being left quite clean.

PORTRAITURE.

BY G. P. M. HOPKINS.

A Paper Read Before the Oxford (England) Camera Club.

In a recent lecture on Art the statement was made that "Raphael's best pictures were those he never painted." What the lecturer exactly intended to convey in this paradoxical saying I am not sure; but how true it is in one sense all art workers are sadly aware. Our best productions are always those we have only seen in our waking dreams, in what we call "our mind's eye;" those perfectly satisfactory achievements which seem so possible till we attempt to translate them into fact!

Portrait and Likeness.

The perfect portrait is so rare that it may almost be called non-existent, and the attempt to produce it in photography gives rise to more disappointment than perhaps any other branch of the art. The reasons for this are numerous. I suppose we are all pretty well agreed about what constitutes a good portrait. If asked for a definition, most people would give this: A faithful and pleasing likeness; or possibly, a faithful *but* pleasing likeness. And in the "but" lies all the difficulty! I suppose, judging by what we see in the exhibitions, both of painting and photography, that there does exist a certain number of people who prefer *un*-pleasing presentments of themselves or their friends; at any rate, the artists' tastes seem to run in this direction. This is no doubt partly due to the modern craze for "actuality," as it is called, and to the excessive emphasizing of one particular phase of the sitter's personality, to the exclusion of all the other thousand traits which go to make up the human character. This doubtful fashion in art, however, like other fashions, will have its day and subside into obscurity. If, however, any photographer wishes to follow it, he will not find it very difficult up to a certain point. He will probably not be able to emulate certain eminent painters, who contrive to put into some of their sitters' faces traits of character which, whether they exist or not, might almost furnish material for a libel action. Such triumphs are reserved for the more plastic arts. Photography must be content with representing things as they really are, as far as we can, for our limitations are somewhat severe.

First of all, let us get a clear idea of what our sitter really is like, and what impression we must endeavor to convey to the world of this particular human being. A true appreciation is seldom obtained by one interview; if possible we should see our sitter several times in the case of a stranger to us; with acquaintances and friends the task is easier. The several somewhat varying impressions thus received must be compared, and a general composite one obtained. If this is felt to be unsatisfactory, some one of the *pleasantly* characteristic impressions should be selected, mental notes being

taken of details of lighting, costumes, etc.

Orthochromatic Portraiture.

Having determined what we wish our portrait to look like, we must consider our means. It will be found, in thinking over the characteristic points of anyone's personal appearance, that color plays a very important part. And the rendering of color is one of our chief stumbling blocks. The difficulties connected with it are twofold, viz., those belonging to any rendering of color by monochrome, and those peculiar to photography. Careful study of tone-values, and practice in trying to render them correctly, help to overcome the first, but technical knowledge in addition must be employed to grapple with the second. For example, in photographing a person with blue eyes, pink and white complexion, and auburn hair, we have not only to find out the relative depth of tone of the various colors, but also to reckon with the fact that blue will appear nearly white, and pink and auburn approaching black, in a photographic print, unless we take means to remedy this misrepresentation. Color-sensitive (orthochromatic) plates, with or without colored screen, should often be used, especially where defects such as freckles exist, but care must be taken not to overdo the use of these devices, or we may get the opposite result to that aimed at, *e. g.*, blue eyes may look black and auburn hair nearly white. Care in development helps much towards correct color rendering; parts of the negative which threaten to become too dense can be stopped, while others are coaxed into density. It will be seen that in order to do this with success a clear idea of the color result desired must be kept in mind, and here comes in the use of the study of tone-values, or relative depths of various colors.

Printing, too, plays an important part in color-rendering. Printing processes suitable to the negative and subject should be chosen. The best processes for portraits are certainly carbon and platinum, as both render the delicate gradation of tone required far better than other processes; unless, indeed, it is required to suppress detail, or obtain a broad effect, when bromide or gum-bichromate prints are most satisfactory. P. O. P. and albumenized silver paper come between, and are not really so effective as either, except in a few cases. A fairly good carbon-like effect is obtained by drying P. O. P. in contact with matt-surfaced celluloid, a good deal more detail and a pleasing surface are thus obtained.

The Real Rembrandt Lighting.

All said and done, however, the absence of real color from a presentment of the human face must remain a great disadvantage, and we can only partially atone for it by judicious lighting and posing. In studying the question of *lighting,* we can, as everyone knows, get much help from observation of the works of great artists, especially such as Rembrandt and Teniers. These masters are particularly useful, in so much that their models are generally homely, if not ugly, whereas painters like Vandyck, and even Reynolds, have a knack of appearing to have had only handsome sitters, who would look well in any light. The poses of the last-named artists (and their schools) are frequently too artificial, though charming, to be of much use as guides to us and the models seem to have all possessed hands of the same beautiful and useless type. The hands of the Flemish and Dutch schools are, on the contrary, lifelike and natural in their various types and positions. If the lighting of a number of Rembrandt portraits be studied, it will be found that the portion of the face and neck in bright light is almost always in the form of an oblong or egg shape, with a piece taken out of it—never, I think, a *half* egg shape, as is often seen in photographic portraits lighted from the side. This particular lighting is not very easy to obtain in an ordinary room, though in a studio it is easy to get it. Some light must be thrown from above or underneath in ad-

dition to that coming from the window. Of course, lighting must be adapted to the type of face being operated on, and nothing but practice can teach how this is to be done. Rembrandt was very clever in the lighting of eyes; and it is good practice to try to copy some of his effects. Often quite insignificant eyes can be made interesting by throwing them into shadow, which must, of course, be transparent shadow. This transparency of shadow is much helped by the use of isochromatic plates and care in development. A source of trouble in connection with the eyes is their surface polish, which, transparent and limpid in nature often gives a glassy or unnaturally glaring effect in a photograph. This must be seen to in arranging the lighting, as it often escapes notice until revealed in the print. Eyes are generally most pleasingly represented when looking naturally in front, not turned at an opposite angle to the face, or looking much away from the lens, though sometimes the face may be turned away and the eyes directed to the lens with advantage. Bunches of flowers do not light up well, and should be avoided. They usually resemble black and white rags more than anything else. Flowers, which form such beautiful studies, resent being treated as accessories, and demand special lighting.

Background and Accessories.

Accessories may help or hinder a picture. When thoroughly appropriate they are very desirable, but they seldom are unless the sitter can be pictured in his own room among his ordinary surroundings. A portrait of an artist or student becomes doubly interesting when taken in the midst of his paints or books, but such things introduced into a studio portrait look absurd and pretentious. Taste, however, no longer runs in this direction, as in the days when Lewis Carroll wrote "Hiawatha's Photography."

The use of black backgrounds is condemned by many good critics, and I think that dead black screens are certainly to be avoided. If we examine Rembrandt's or Velasquez's dark backgrounds we shall find them always of a luminous quality, even if not shaded into half-light, as they frequently are. Against a dead black, the face is apt to look as if cut out of cardboard, without roundness. This failing may be observed in some very fashionable photographer's portraits.

The arrangement of the principal object on the plate belongs properly to the subject of composition, about which the Oxford Club has had much valuable advice from Mr. Snowden Ward and others, so I will only say that great care should be given to this point, if a good picture is to be produced. We do not always know why a picture pleases us, and very often it will be found on consideration that the arrangement of the chief masses according to rules of composition has a great deal to do with the matter. One chief rule is that the chief object should not be placed in the centre of the plate, especially when it is a seated figure and when accessories are included. I have indicated a few "side lights" which will, I hope, if not new or particularly useful, at any rate not help to darken the path of the aspiring portraitist as he struggles toward the full light of successful achievement.

ON PLATINOTYPE PRINTING.

BY G. E. C. MORRIS.

Of all the various printing processes now in vogue, perhaps platinotype is the simplest; yet despite this apparent fact, how many amateurs there are who fight shy of it, and pass on to the more uncertain bromide and gaslight papers!

True, the effects produced on these papers, if worked with precision and intelligence, are nearly, if not quite, equal to the effects produced on platinotype. Hence it is, no doubt, the platino matt surface papers are so much used. How-

ever, the desired result, viz., the "platinotype" effect, is only attained after considerable experience in bromide work. We, all of us, are familiar with the nasty green or rusty brown print, caused through errors in exposure or wrong development. With platinotype the color does not vary one iota, if the most ordinary care is exercised. Even the beginner may produce excellent prints with very little knowledge. In the first place, there is, as in most other printing processes, one particular class of negative which will give, with the minimum amount of trouble, the best result, and that is the negative which one might describe as "correctly exposed and developed," one that is neither too thin nor too dense, but has a nice brilliant sparkling tone, with fairly transparent shadows. This kind of negative will give a similarly brilliant print, because being equally balanced in light and shade, it is possible to print out on the platinum paper with fair distinctness the *details* of the shadows, without sacrificing some other portion of the negative.

When the negative is unequally balanced in light and shade, the shadows have to be printed to their proper strength, to the detriment of some lighter and perhaps more important part. Thus one might feel constrained to argue that there is only really one type of negative that is suitable for platinotypes. For the beginner this is so, for he will never get good results during his early experiments, except with a fairly plucky negative; but as he gains experience he will soon find out that any negative capable of yielding a good solio print will also yield a good platinotype.

Personally, I prefer a soft negative with plenty of detail, and always print in the shade, generally having the frames covered with tissue paper. It takes longer, but the results are worth it. It is perhaps needless to add that no negative deficient in detail will yield a good print, neither will one that has been intensified with mercury; the latter gives rusty blacks. Now, damp is the one great drawback to platinotype printing, and too much caution cannot be used to prevent the paper becoming moist. The calcium in the tube in which the paper is sold will effectually keep the paper in good condition, if it is used up within the week; so that there is no necessity to go in for costly air-tight storing tubes, if one only buys sufficient for immediate use. The paper must naturally be kept in a dry place. I keep mine in a cupboard in the mantelpiece.

With regard to general working details, it is necessary to have 1 lb. of oxalate of potash, 6 oz. of potassium phosphate (not always obtainable, but sodium phosphate will do if unable to get the former), 10 oz. bottle of pure hydrochloric acid. Developing formulæ are as follows:

No. 1.

Potassium oxalate	2	ozs.
Potassium phosphate	½	oz.
Water	14	ozs.

For use, one part, with one part of water.

Or, for vigorous results—

No. 2.

Oxalate potash	16	ozs.
Potassium phosphate	4	ozs.
Sulphate of potash	½	oz.
Water	120	ozs.

Used without dilution.

Both the above formulæ should be made up with hot water, and used when cold; the latter should always be used *quite cold* to obtain very brilliant prints.

No difficulty should be experienced in development, if the exposure has been correct; in fact, it is automatic, more or less, in action. A slight variation of color occurs when the bath is used warm, but, generally speaking, the colder the solution, the colder the tone. The prints should be submerged in the bath in such a manner that air bubbles are avoided. This is very easily accomplished with a little practice. The prints should be slid in, not pressed in flat.

Correct printing, the most important factor of the process, is very soon learned. It should be carried on until the detail in the darkest portion of the negative is distinctly visible, and when this occurs it will be found that the lighter portions have turned a deep

orange color. Unless some portion of the image shows this color, it may be taken for granted that the print is underexposed. If the shadows are fairly well defined and no orange color is visible, it is safe to print a little deeper, to give more contrast. A very weak negative will not give a plucky print unless very slowly printed in a dull light.

A very dense negative is unsuitable because it invariably gives hard, chalky prints, which lack of light and shade; consequently, a "well-graded" negative is undoubtedly the best for first-class results. The novice would, therefore, do well at the first to adhere to one class of negative, carefully noting the exposure, and not attempt experiments with other, and perhaps less suitable negatives, although they may be, if properly treated, capable of yielding prints which are in every way as satisfactory.

In order to prevent damp from affecting the paper when printing out of doors on a fine day, it is not a bad idea to have a printing board lined with felt, or some other thick material, on which to lay the frames. This obviates the necessity of using rubber pads at the back of the paper, which is very often a nuisance.

A few words may be said with reference to the fixing or hydrochloric acid bath. This is an important matter and should not be scamped. Hydrochloric acid is cheap and should not be stinted. The following is a good formula for a number of small prints:

Hydrochloric acid	½ oz.
Water	40 ozs.

Make up a solution in a 40-oz. bottle, and use in three *separate* dishes, allowing the prints to remain in each dish not less than five minutes. When they come out of the last dish the solution should be quite clear; any tinge of yellow shows that traces of iron still remain in the prints. No intermediate washing is necessary between development and fixing. The final washing should be of twenty minutes' duration, and then the prints can, if desired, be dried by the fire.

There are many different kinds, or brands, of platinum paper now on the market, and all are excellent in their way. The surface of the paper is a matter for some consideration. For small quarter-plate prints the smooth paper is the most effective; the rougher textures are more suitable for large work, such as prints made from enlarged negatives. Though there are occasions when a very broad effect is required in a small landscape print, the rough surface paper produces most artistic results.

There is a common idea that the platinum printing is ultra expensive. The actual paper may be rather more costly that P. O. P., for example, but, taken generally, it is infinitely cheaper than bromide, and decidedly simpler in manipulation, when once its peculiarities have been overcome. To sum up the chief "pitfalls" in platinum printing it may be said that damp paper, errors in exposure, and printing from unsuitable negatives form the sum total of early failures.

Dampness makes itself evident in granular, grey, flat-looking prints when developed. Overexposure has often a similar result, while underexposure shows itself in prints of harsh contrasts and very black shadows. There are ways and means of remedying some of these defects, but as prevention is better than cure, it is wiser not to attempt to correct these errors by further manipulation, but rather to seek the cause of the fault in the first instance, and contrive to prevent it in future.—*Amateur Photographer.*

ADVANTAGES OF TIME DEVELOPMENT.

THE chief advantages of time development are (1) Uniform negatives when exposure has been correct; (2) Reduces light fog to a minimum; (3) Determines when development is complete; (4) Removes the temptation to overdevelop in the hope that more details may be obtained.

PORTRAIT

J. Savannah, Victoria, B. C., Canada

PORTRAIT

J. Savannah, Victoria, B. C., Canada

PORTRAIT

J. Savannah, Victoria, B. C., Canada

CHILD PORTRAITURE

J. M. Brigham, Battle Creek, Mich.

CHILD PORTRAITURE

J. M. Brigham, Battle Creek, Mich.

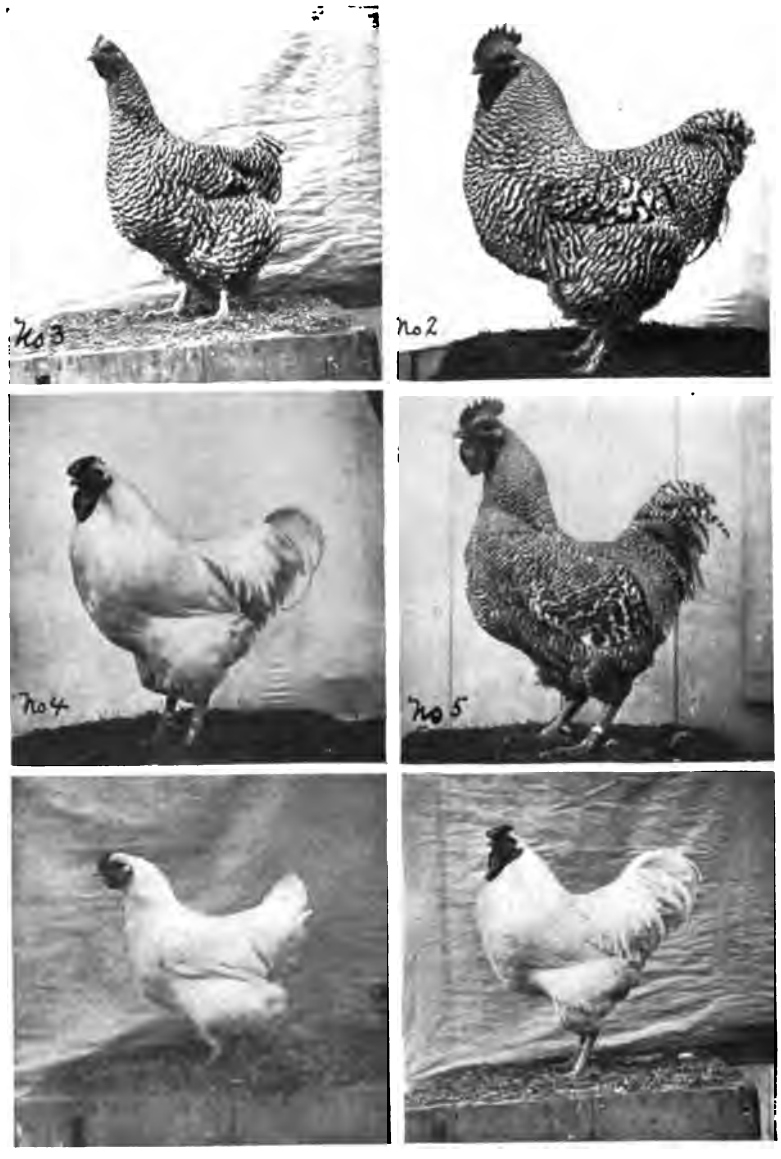
PORTRAIT

J. M. Brigham, Battle Creek, Mich.

THE OLD MUSICIAN

By H. J. Leonard, Racine, Wis.

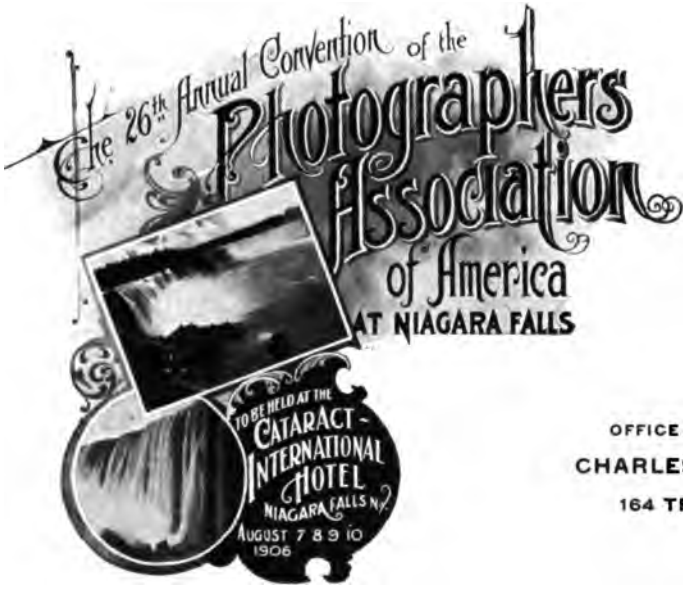
Selected to represent the Wisconsin Photographers' Association at the National Convention



COMMERCIAL PHOTOGRAPHY

From the Barnyard

James S. Radcliffe, Millville, N. J.



AN OPEN LETTER FROM PRESIDENT HEARN TO ALL PHOTOGRAPHERS.

OFFICE OF THE PRESIDENT
CHARLES WESLEY HEARN
164 TREMONT STREET
BOSTON

DEAR FELLOW MEMBERS OF THE P. A. OF A.:

You probably are aware that our next convention is intended to be educational —on the business side of photography. I think we agree, that at least one convention could be devoted to this necessary part of our profession, without abating a single iota from maintaining and striving for our continued advancement as artists. This is supposed as being understood.

At the Niagara Falls Convention, the art side of our profession will have its claim presented as being the *only true fundamental principle* upon which our advancement financially should rest.

We shall have assigned, as an advocate for this topic one who is well qualified as a most able and gifted speaker to defend and maintain this stand. With marked ability of analysis, it is very evident that new and valuable information can be obtained, whereby larger financial returns are possible by simply elevating the artistic results alone, but more especially so if his suggestions, founded upon a close study upon the subject, are carried out.

The business end will be equally well attended to, with attention to as many ways for improvement as time will permit. The detail alone of making pictures that will please, and from the proofs submitted to obtain orders that will result to our decided advantage, giving our patrons *just and full value,* will receive *our closest attention.*

At the P. A. of A convention at Boston, one of the most popular sessions was that devoted to the "management of the reception room." This will be taken up again this year, with the hope that it will be made even more instructive.

A review of an address given by the writer at the recent Washington meeting of the Pennsylvania Association, to be found on another page, will further inform the reader of a few other matters which are in contemplation.

I would, however, draw additional attention to the art exhibition. It is a little early yet to state as a positive fact, beyond any possibility of disappointment, but as things appear now we will most likely have the largest collection of pictures from Europe and America, of a *very high order* of artistic excellence,

that has ever been exhibited at a professional gathering of photographers in America.

Certain kind and very influential friends and well-wishers of our Association have rallied to the assistance of a most loyal supporter of your executive who was requested to obtain these pictures as a loan exhibit, if a possibility. The completion of only one matter of detail is necessary before giving further publicity to the matter. Independent European exhibits are also expected. In addition, we have the promise of a loan exhibition from Mr. E. S. Curtis, of Seattle. This exhibit will consist of fifty of his 14x17 pictures, illustrative of the tribal life of the American Indians. Without exception these pictures, for various reasons, are photographically the wonder of the age. Unfortunately, for ourselves, our own most successful efforts pale into comparative insignificance. For the attainment of these pictures of great historical value, he is devoting the best years of his life, thus perpetuating for posterity what would be utterly lost, without his efforts, as the American Indian is fast becoming extinct. These pictures made under the most trying and almost impossible conditions, often with a 14x17 outfit, used as a hand camera, are wonderful for their composition and other pictorial qualities.

The exhibits of the work of our members may be sent as "complimentary" if desired. Exhibits not so marked will be judged by a carefully selected and competent jury, and twenty-five of the best pictures—selecting only one from any exhibit—will be marked for Salon Honors, and a certificate given to that effect. The convention will be asked to direct that these pictures be used to "illustrate" the 1907 P. A. of A. publication—*The Association Annual,* or if they see fit, make some other appropriate use, so that our members may be able to eventually secure reproductions of the same for study, reference, and preservation.

As a picture worthy for the Salon *must of necessity* be of a very high standard of excellence, *it is urgently desired that our members will this year take great pains with their exhibits.*

There will be no restriction as to the size, nor the number sent in one exhibit; *quality only being considered by the jury.* Portraits, landscape and marines are alike eligible. The only stipulations for Salon Honors are that the pictures must have been made since August, 1905, and that the exhibitor is a member of the Association in good standing at the time our convention opens at Niagara Falls next August.

We do not desire to be unduly uncommunicative, or to border upon any semblance of mystery, but it is impossible at the present time to give official publicity as to other honors in contemplation by your executive for these pictures, except in a general way to state that the outcome of the Salon for 1906 will thus receive official recognition from this leading professional body of photographers of the world, *as the present* attainment of photographic art among the professionals in America. It is imperative, therefore, for the dignity of our art that these results should prove worthy of our claim for its recognition as a fine art.

In the judging of the pictures, that degree of technique necessary to produce good artistic results, which will be evident to the jury, will naturally receive especial attention. Technique alone will not prevail, *pictures should also present at least a good claim to artistic results.* We believe at a National convention, as many as twenty-five pictures of a very high order should unquestionably be present, coming out of an equal number of exhibits.

If it should be found that there are several pictures of practically the same value, and only a part of them can be selected to complete the stipulated number, then those pictures will be selected which come from an exhibit having the better average. It follows, therefore, that the exhibits, as a whole, should be

very carefully selected before being sent. A picture which does not strengthen your collection is always a good one *not* to send.

Other matters of interest will be given in next month's issue of this magazine.

Sincerely yours,
CHARLES WESLEY HEARN.

CARBON PRINTING FOR PROFESSIONALS.

By A PRACTICAL PRINTER.

(Continued from page 230)

Enlargements.

There is nothing to compare with a carbon enlargement, and owing to their wondrous beauty they appeal to the customer at the first glance. I believe it is well to have a number of them, suitably framed, in the place of honor in every studio where carbon work is practiced. As carbon is not sensitive enough to enlarge directly upon, we first make a carbon transparency from a well-finished negative and from this make an enlargement in the camera. For wealth of detail and perfect gradations in tones there can be none too much praise given the carbon transparency, hence it is fit and proper to make the positive to enlarge from in carbon. All who make enlarged negatives even for other than carbon work would do well to make the positive in carbon. For this purpose a special tissue, transparency black, is used. It differs from the ordinary tissue only in being made of a very much more finely ground pigment and costs a trifle more.

The print is made as for single transfer, is squeegeed on a plain glass coated with the waxing solution, or albumen, and save that it is printed considerably deeper than it would be for a print, differs in no way from the ordinary work. When dry it may be varnished, and after the enlarged negative has been made from it, it may be used as a window transparency.

With the special transparency black, lantern slides of the choicest quality are readily made, and providing the negatives are small enough to admit of contact printing, the process is as cheap and easy as any other. I usually coat the glasses with albumen solution, dipping them wholly in and racking to dry, as it is difficult to tell which side is albumenized, and dipping is quite handy. A solution of the white of one egg, well shaken, in eight ounces of water, with a drop of strong ammonia added, answers profitably. By adding a little formalin the albumen solution might be made to keep, but it is probably better to make it fresh twice a week. The glasses being dry, the prints all made. I wet the latter and squeegee or roll them on to glasses, laying all in a pile and placing a blotter of the right size between each slide. On each pile of twenty-five a weight should be placed, and if one is doing a hundred or so, by the time the last pile is made the first lot is ready to develop. If one has a washing tank of sufficient capacity it will do nicely for developing. If not, a wire cage can be made which will hold the requisite number. About four with a capacity of twenty-five each will be convenient for the average worker. Whatever form is used, it had best be something that will hold the slides vertically. Fill the tank or cage with slides, immerse it in water at about 100 deg. Fahr. and leave the slides there until the backing shows signs of being ready to drop away. Then by gently raising and lowering the cage the paper slips off and the pigment begins to rapidly leave the plate where it is soluble. Changing the water a number of times and raising and lowering the cages, we soon have as fine a lot of slides as ever were made. After the soluble pigment is all washed away, a few minutes' immersion in alum water and a final rinsing completes the work. The fact that the

slides are reversed makes no difference, as it is only a matter of placing the thumb mark accordingly on the finished slide. I do not varnish the slides at all, simply matting and binding a cover closely down on each slide. Slides made from transparency black will stand oxy-hydrogen or electric light, but the colors of the ordinary tissue are not ground sufficiently fine. They are all that could be desired for oil lanterns and form a most agreeable change from black and white, but, as stated, they will not be satisfactory with a light stronger than oil.

Making.

While such excellent papers are to be had at reasonable price from the stock house, I do not suppose any would care to make their own unless it might be the single and double transfer paper. However, for the benefit of those who would like to experiment, I append a formula for making tissue as well as those for single and double transfer paper, etc.:

Carbon Tissue.

Coignet's gold label gelatine	2 ounces
White loaf sugar	3 ounces
Water, hot	40 ounces
Coloring matter	to suit

Grind up the color with a little of the warm jelly and add to the bulk, which may be kept liquid in a water bath. Test from time to time by floating a strip of white paper on it and look through it at the gas jet. If the flame can be seen, add more and more color until it cannot. To coat the paper, moisten it slightly and lay it on a sheet of glass, then pour on sufficient of the jelly to coat it amply and level it while setting, after which it may be hung up to dry. Winsor and Newton's moist water colors are almost all suitable for this work; sepia, Indian red, black, and some of the browns being excellent.

Single Transfer.

A.

Nelson's No. 1 gelatine	1 ounce
Water	20 ounces

Dissolve in water bath.

B.

Chrome alum	20 grains
Water	2 ounces

When A and B are thoroughly dissolved, add B to A in very small quantities at a time, stirring vigorously during the whole mixing. Apply to any paper desired, or to metal, canvas or wood.

Double Transfer.

A.

Nelson's hard gelatine	1 ounce
Water	8 ounces

Dissolve in water bath.

B.

Chrome alum	30 grains
Water	1 ounce

Add 3 drams of B solution in 2 ounces of water to the entire quantity of A, stirring as it is added little by little. Then float the paper selected on this solution.

Waxing Solution.

Yellow beeswax	2 drams
Benzole	1 ounce

When dissolved add

Ether	1 ounce
Alcohol	1 ounce

Another (Elliott's)

1.

Benzole	1 ounce
Beeswax	3 grains

2.

Turpentine	1 ounce
Resin	12 grains

Dissolve separately and mix the two. Pour a little on a flannel rag and rub the surface to be waxed, well polishing with a dry flannel rag.

HINTS ON DEVELOPING.

In making up developers it is important to use a good quality sulphite of soda. Obtain clear crystals or wash them if covered with a powdery deposit.

If amidol is very dark colored when bought it is stale, and, although it may do for negatives, will not give a good color on bromide or gaslight paper.

A formula for simultaneously developing and fixing plates is: Water, 10 ozs.; hypo, ¾ oz.; caustic potash, 100 grs.; kachin, 100 grs.; soda sulphite, 1 oz.

ON STRICTLY COMMERCIAL LINES.—THEO. MARCEAU.

By Sidney Allan.

Everybody who knows the Colonel personally likes him. Those who know him more intimately even admire him.

Also I could not escape the charm of his personality. His photographs—well, it is really too bad that a man in my position must always express an opinion. Perhaps I will be able to evade it in this instance.

I believe that Marceau never considered photography from an artistic point of view. Why, then, criticise him from that standard. His sole aim as a photographer has been to please the public. Now, one need not be supersubtle to see that such subserving is apt to call forth an immense disdain in those photographers who recognize photography as an art.

Is this just? Most assuredly not. Marceau can argue that photography is made to amuse people and that it matters little how it impresses the critical mind. If such work is denied the name of art, call it by any other name, as long as it satisfies the public it is good photography. Its success is in a way a mark of merit, and it is only causing unnecessary trouble to deny its meritorious qualities.

Pray, what are these meritorious qualities? a Mr. Garo may ask. Plentiful, I would answer, from the commercial point of view. Of course, a Marceau print looks a trifle out of place. We have outlived the period of over-retouching. Yet one should not forget that he represents that class of work as well as any man has ever done. The newcomers have a different standard, more advanced, I give in, but that is all. Marceau found it profitable to stick to the old methods. And is there really so much difference between the various modes of expression? The Marceau style is different to the Davis style, and the Pierce style is different to the Coburn style. Who can say which is the best? Do you really prefer a blurred face to a good old-fashioned worked out face? Neither is particular to my liking. But as a critic I am always willing to render to Cæsar the things that are Cæsar's. Half a loaf, the wise agree, is better than no bread, but because it is only half a loaf, we surely have no right to complain that we have received a stone.

In photography, as in art, the fashions change. At one time one kind of work is lauded to the sky; a few years later another wins unstinted applause. Despite Bernard Shaw (I have never heard that he had made a special study of photography, which would entitle him to prophetic utterances), the majority of the public is still on Marceau's side. And the public, after all—no matter what your or my opinion may be—has a good deal to say about it.

In painting, the romanticists have run down the classicists, and the realists, in turn, have run down the romanticists, and so on until it has become an unmitigated bore. As if there wasn't something good in everything. It was merely the fight of line and color for supremacy. It is much the same way in photography. The fight is there between the *natural* and *flattered* expression, and it will continue as long as portrait photography exists.

Marceau is the champion of *flattered* expression. Nobody has ever taken so much pains to purge the human face of every blemish and present surfaces as smooth as celluloid. Well, if ladies of fashion are not satisfied with the face that God has given them, and prefer somebody else to make another one for them, what is the poor photographer to do about it? Nearly all professional

photographers I know make concessions to the vanity of their clients. The only difference is that Marceau not only makes more, but to such an extent to bring them into harmony with his bank account.

There lies the rub! Professional portrait photography—there is no way of getting around it—is a commercial proposition. The people of moderate or medium intelligence form about ninety per cent. of our population. It becomes merely a question whether you want to work for the ten or the ninety per cent. If you choose to work for the ten, well and good, the laurels in these days of write-ups will not be failing, but I fear your automobile rides will be few and far between. And this is no trifling matter, unless one is satisfied with being a photographer for photography's sake.

Marceau cheerfully chose to work for the ninety per cent. It may have, as the years passed on, dwindled down to sixty or fifty, or even less, but the clientele is still large enough to support not only one New York, but three branch establishments.

Marceau is the very antipode of Milton Waide; he believes in collaboration, not in any one-horse town method. He runs his establishments like a banking house. Everybody is paid per check. He has the credit of having introduced sane business methods into a profession, which was always exceedingly weak in that respect. He has gone, perhaps, too far in that direction, as he has eliminated all individuality of the photographer in the management of a gallery. He does not take any pictures himself, he hires his men for that. His place is not under the skylight or in the dark room, but at his office desk, reading the reports that are sent in every morning from the managers of his Boston, Philadelphia and Los Angeles establishments. He is merely the head of the firm. "All letters have to be addressed to the firm, not to him." He travels from one place to the other. He devotes his time to building up his business. In his galleries everything runs like clockwork. Every one of his hundred or more employees has certain strictly regulated duties to perform. They never interfere with each end, but work harmoniously towards one end. The lady at this desk is in charge of a certain department, the lady at the next desk of another, the man behind the pay-window and his clerks take care of double bookkeeping and the monetary functions, and so on.

Every prominent transient receives an invitation to visit the Marceau Studio. Celebrities are offered special inducements. New methods of soliciting clients are continually invented. Every would-be client is followed up by telephone and letter in a most *raffiné* manner, until resistance is no longer possible. In the meanwhile the financial standing of the party has been looked into, and if it is in any way doubtful, no credit is allowed.

The Marceau Studio is really a wonderful lesson to the photographer who has no particular artistic vanity to combat with and who is solely bent on succeeding on commercial lines. The Colonel has proved himself a true organizer, and shown that one can run a gallery like any other business on a legitimate basis.

And the most astonishing part of it, after all, is that a Marceau print can be recognized at the first glance, no matter whether it is issued on Fifth Avenue, Tremont Row or Chestnut Street. Although Marceau has renounced all claims as an individual worker, he has understood to give to his products a certain stamp of their own. I would recognize a Marceau woman, elaborately gowned, with a shower of spangles on waist and skirt, the latter twisted around her lower limbs, with a sea of frills reposing at her feet, among thousands of photographs.

The leading characteristic of the Marceau print is a certain matter-of-fact appearance. The way his bust portraits are composed and his standing figures are posed, clearly show that all details of technique have been reduced to the

simplest and most practical methods. Admirable, indeed, from a business point of view. As we all know there are only a few ways how a head can be posed: in profile, full face, three-quarter view, with the eyes looking down, upward, sideways or straight ahead, with the hand on the chin, on the cheek or the back of the head, etc. All the other poses are either bizarre or variations of the fundamental ones. The Old Masters or Professor Otto Beck can prove this to any one sceptically inclined. Why not select the most characteristic ones and utilize them to the best advantage on all occasions. And so it is with everything. There is always one method that is the most serviceable. Marceau has taken hold of the inimitable conventions of photography, and moulded them into practical functions, and thereby rendered professional photography a greater service than by any esthetic experiments he might have "created" for the benefit of serious intellects.

To sum up—what I respect most in Marceau is his absolute impersonality in the same way as I respect in Pirie MacDonald his absolute individuality. It is, after all, no mean accomplishment to know what the public likes and to have the ability to give it to them. It must be after all no such easy matter since you or I don't do it. What! There is a way to meet with public favor in four cities and we knew it all the time, and yet allowed Mr. Marceau to have it all his own way. A peculiar weakness—as we all, without exception, have ambitions in the same direction.

Let us reform, and if we want to get ahead in this photographic world of ours, let us become initiated into the business methods of a Strauss, Davis, Pirie MacDonald, Steffens and, above all else, of the firm Marceau.

PECULIARITIES OF DEVELOPMENT PAPERS.

E. A. Turner.

In any photographic operation, as in anything else that is worth doing on this little planet, difficulties will sooner or later be encountered. The successful worker is he who understands the difficulties of the work he is doing and knows how to avoid or overcome them.

And it is the same in other walks of life. The successful teacher knows not only how to teach his subject, but also how to manage the recalcitrant pupil. The successful photographer knows all the whims and caprices of the paper he is using and how to prevent any of these things influencing the quality of his work.

The manipulation of development papers, while probably easier than the manipulation of any other kind of photographic papers, is still beset with a few peculiarities that may be worth our while to discuss. Perhaps the easiest way to cover the various points will be to consider them under heads which describe the appearances caused in the finished print. We may then consider them as failures and discuss them in order.

Grayish Whites.

A not uncommon fault with inexperienced workers in development papers is a graying over all the whites of the print, including the white rebates if there are any. It is usually caused by the developer not containing sufficient bromide of potassium for the grade of paper used, and in this case is always easily remedied by adding one or two drops of 10 per cent. solution to each ounce of the developer. Some developing papers require more bromide in the developer than others. The white rebates of a properly made print will be absolutely white, as clear as the paper on which the "emulsion" was coated. A very convenient test for purity of whites is to fold over the print, without creasing it, so

that the back of the sheet can be compared directly with the white margin on the face. Any slight grayness is then immediately noticeable. The writer often makes this test with the wet print, as soon as it has been a minute in the fixing bath.

Grayish whites may also be caused by working the paper in too strong a light, or by exposing the sheet too much to the light during manipulation. In this case perhaps the best remedy is to arrange to have a yellow light for handling the paper and developing. Such a light is easily arranged by hanging a double thickness of yellow tissue paper in front of the lamp. The light may be tested just as the safe light for plates is tested, by exposing half of a sheet of paper for about one minute and then developing the entire sheet. If the light is unsafe, the exposed half of the sheet will quickly gray over in the developer, while the other half remains clear.

Besides these causes, grayish whites may also be due to too much or too strong an alkali in the developer. Developing paper that is very old will not yield prints having clear whites. No reasonable amount of bromide in the developer will keep the whites from turning gray. And at this point it is well to maintain that there is a vast difference in developing papers in keeping quality. Some papers are worthless when a year old and others do not seem to suffer appreciably from being kept for a year.

The last cause of grayish whites is too long development. The proper development for most developing papers is between 20 and 40 seconds and if development is continued for too long a time in trying to force up an underexposure the sheet will fog over slightly, just the same as a plate or film will do if developed 10 minutes or more in a normal developer.

Greenish or Brownish Blacks.

To secure black tones on developing papers, it is necessary that both paper and developer be fresh and in perfect working condition, and that the developer be properly compounded for the paper on which it is to be used. Greenish or brownish blacks can then be caused by old paper, impure chemicals, old or oxydized developer or by too weak a developer. But when paper of absolutely dependable quality and freshness is used, and the developer is prepared carefully from pure chemicals and used while fresh, the number of possible causes of greenish or brownish blacks is reduced to two—too much bromide, and overexposure.

We have previously spoken of the importance of having exactly the right amount of bromide in the developer and of how different papers require different amounts, so perhaps it will only be necessary in this connection, to call attention again to the fact that excess of bromide in the developer is the commonest cause of impure tones.

As to exposure, there is considerable latitude permissible in the exposure that may be given in printing and the trouble with greenish or brownish tones only occurs when the exposure is considerably in excess so that the print flashes up very quickly and has to be quickly rinsed and fixed in order to save it from becoming too dark. If exposure is short enough so that development is fairly slow and under ready control the tones will not suffer. It seems as if the silver image always develops up at first in a greenish or brownish tone, and only takes on the pure black tone with longer development. The writer has also noticed this peculiarity with plates and with bromide papers. A certain length of time of development seems to be necessary for best results.

To secure pure black tones, then, it is only necessary to make sure that paper is good and fresh, developer correct and freshly prepared, and to avoid overexposures and prints that flash up in the developer. Correct developer is easy to secure by purchasing from a reliable manufacturer or by preparing it from reliable chemicals according to the formula furnished by the manufacturer of the paper.

(To be continued)

EVERYDAY RESEARCH.

BY GEORGE E. BROWN.

NOT the academic investigation of Professor Atomicity on, say, the relations of the hy-droscyl groups in aromatic developers, but the everyday practical research which, in the same spirit as the scientific investigator, worms a way out of difficulties, refuses to assume the attitude that "things happened so," and does not rest until the cause of such and such an effect is found—that is what is wanted in photographic practice, and the principles underlying it are the same as those underneath the higher sciences. Nature holds her secrets lightly, and answers only "Yes" or "No" to the questions we put to her. So if we are to find out anything we must make our mode of questioning simple, so that there can be only one interpretation of Nature's answer. Take a concrete example. Your toning bath will not tone. You spoil batch after batch of prints. Now, this is not due to a general cussedness or wrongness. It is due to one or more specific causes, and if you are to find out to which of the conditions the failure is to be ascribed you must so arrange matters as to have no doubt that certain other conditions are above suspicion. Your prints may not tone because the paper is old or stale, or because the prints were not washed enough, or because the wash water was unsuitable, or because the toning bath contained impure chemicals, or because the dishes were contaminated with traces of other baths.

Probably you have some reason for suspecting one of these causes more than others. If so, the scientific method is, make all other conditions most favorable (save this alone), and carry out the process with things arranged thus, alongside other prints in which care has been taken to eliminate this unpropitious factor also. Thus you suspect your sulphocyanide of being impure. You therefore make two baths, one with your ordinary supply, another with the most refined product you can get, in each case observing the precautions which experience and knowledge suggest. Thus you wash in pure rain or distilled water, you use freshest paper, and new dishes (or if your old ones show no cracks you rinse them with spirit of salts, which removes all harmful substances). Thus you will get a negative or positive answer to your question—"Is the sulphocyanide wrong?"

A man tells me without a smile that his formula for a developer requires only one-tenth the exposure demanded if the formula I am at present using is followed. As he is a man and a brother, I do not accuse him of premeditated inexactitude. We agree to stand by the results of exposing a few plates, cutting them in halves and developing one lot of halves in his developer and the other lot in mine.

So, again, you hear of the glorious results of toning lantern slides by a certain process; yet how few are they who will take a single slide, treat half of it as directed (by tilting it in the dish) and compare the results on the screen. I have a lot of slides made in this way by which I can at once see and show my friends the result of toning according to a certain formula.

The same method of procedure is necessary in many other directions. Were it followed we should have errors of long standing dying pretty soon, and impossible processes would cease to move incessantly from one photographic journal to another, to the amusement of him who watches with interest their travels and disguises.

The object of this article is to point out that no one can help a photographer out of a difficulty better than himself, provided that he will look at the question all round and that he is fairly well acquainted with the effects of the tools or chemicals he is using.

DEFECTS AND FAILURES IN CARBON PRINTING, AND THEIR PREVENTION.

BY HENRY W. BENNETT, F.R.P.S.

Mr. Bennett—one of the leading European authorities on the carbon process—contributes the following helpful article to "The Practical and Pictorial Photographer." We feel sure that those of our readers who are working this process will be glad to avail themselves of Mr. Bennett's experiences.—Ed.

ALTHOUGH the carbon process forms one of the most attractive methods of obtaining prints, it offers, unfortunately, more opportunities for defects and failures than some of its rivals.

As in other work, these defects arise principally from the worker's ignorance of their cause. All may be easily prevented, if, the reason being known, suitable precautions are taken. With reasonable care in working technical defects should be absent.

1. **Storage of Tissue.**—When sensitive tissue cannot be used conveniently as soon as received, it is of the greatest importance that it be protected from the action of the atmosphere as well as from light. Wrapping in water-proof paper and storing in a printing frame under moderate pressure will fulfil all requirements for two or three days. If not so preserved, the tissue rapidly becomes insoluble. For longer keeping a receptacle containing dry calcium chloride may be used. Although this preserves the solubility of the tissue for a long time, it introduces a new defect. The tissue becomes very brittle. It requires handling with great care, as it is difficult to avoid cracking or breaking the film of gelatine. If this method of storage be adopted the tissue should be freely exposed to the air in a dark cupboard or drawer for an hour at least before printing.

2. **Preparation of the Tissue for Printing.**—Carbon tissue appears to possess the property of attracting dust and small particles of paper, etc., to a greater degree than most photographic printing media. It should be carefully dusted with a soft fabric before placing in contact with the negative.

3. **Safe Edge.**—Care should be taken to place the tissue so that it does not project beyond the protecting safe edge. Also it must be covered on all sides to the extent of one-eighth of an inch, at the least, by the safe edge. If not, frilling will inevitably occur in development.

4. **Printing.**—It is imperative that the same brand of silver paper be used invariably for the actinometer by which the depth of printing is gauged, or uniform results cannot be obtained. The various brands differ materially in speed.

5. **Albumenized paper** gains rapidity materially with keeping. Gelatine emulsion papers remain constant for months if stored in metal tubes or boxes. For actinometer printing Solio only should be used.

The exposure of the tissue in the printing frame will be incorrect, and the resulting prints defective, if the actinometer does not receive sufficient attention. When the instrument in use is in the form of a single tint that requires printing to a standard depth several times in succession for gauging the extent of the exposure of the tissue, it is evident that any delay in changing the silver paper will result in a very definite printing of the carbon tissue. An actinometer which consists of a series of graded squares, which simply necessitates the exposure of a single strip of silver paper until the number corresponding to the negative shows a faint image, will be the most simple and certain for amateur work. Its progress must be watched

with care, and the examination of the strips made under uniform conditions.

6. **The Image is too Light.**—This is principally caused by under printing. If the exposure in the printing frame has been carefully gauged, and the correct exposure for that negative is known, the weakness of the image may be caused by want of sensitiveness in the tissue. (The method of securing a uniform degree of rapidity is given in the paragraph on sensitizing.)

7. This result may arise from the over development of a correctly exposed print, or from commencing development with water at too high a temperature; 105 degrees may be considered the standard temperature.

8. **The Image is too Dark.**—Although this is mainly due to overprinting, yet, like the preceding defect, it may be the result of variations in the sensitiveness of the tissue: it may be due to other causes.

9. **Age of Tissue.**—The tissue may have been kept too long, and become partially insoluble in consequence. Or the prints may have been kept too long after exposure without precautions being taken for arresting the action of the light, which continues after the print is taken from the frame. This continuating action may be largely checked by keeping the print under moderate pressure, as suggested for unexposed tissue. Or it may be entirely stopped by storing the print in a calcium tube or box. If the print has to be rolled for storing, the sensitive side should be inwards.

10. **The Printed Tissue may fail to adhere** to the single Transfer Paper. This may be due to any one of several causes.

11. **Soaking.**—The transfer paper may not have been soaked for a sufficiently long time. A thin paper will not require more than four or five minutes. A thick and rough paper should remain in water twenty or thirty minutes.

12. The print may have been soaked in water too long before squeegeeing into contact. Dry tissue will curl with the sensitive side inwards on being placed in cold water. As it becomes impregnated with water it straightens out, and finally curls with the sensitive face outwards. It should be taken from the water and squeegeed into contact before it becomes quite flat. If the soaking is allowed to proceed too far. this curling tendency will be sufficiently strong to cause it to leave the transfer paper.

The want of adhesion due to these two causes is evident at the time of squeegeeing the prints to the transfer paper. That due to the following causes is mostly seen when the print is placed in the developing tank only.

13. **Insolubility of the Tissue.**—When the tissue has become insoluble through long keeping after sensitizing, it frequently peels away from the transfer paper, partially or entirely, when an attempt is made to remove the backing paper.

14. **Insufficient Water** between the tissue and transfer paper when squeegeeing into contact may result in imperfect adhesion.

15. **Air-bubbles** on the tissue when soaked in water previously to squeegeeing it to the transfer paper will produce patches of imperfect contact, and consequently failure to adhere.

16. **Air-bubbles** allowed to remain on the transfer paper in the preliminary soaking will lead to a similar result.

17. **Blisters** during development are the result of imperfect adhesion, and are most frequently due to the causes given in the two preceding paragraphs.

18. **Frilling,** or lifting of the edges of the print, is another example of this same defect. This is very frequently caused by the edges of the print not being protected by a safe-edge.

19. **Very Hot Water,** or prolonged development, may either cause or aggravate these defects.

20. **The Printed Tissue may fail to adhere** to the temporary support used

for double transfer prints. This may be due to the following causes, in addition to those given in the preceding paragraphs relating to single transfer paper.

21. **Insufficient Waxing Solution** applied to the temporary support, or polishing and rubbing off too much of the solution. The surface of the temporary support should be rubbed carefully with a piece of soft, fluffless fabric, after applying the solution. This should be merely sufficient to render the coating uniform. The support should be left with a slight surface moisture.

22. **Using the Temporary Support too soon after Waxing** is a certain cause of failures. One hour, at the very least, should elapse if the support is hung in a dry and warm room. With careful storage, the supports may be kept indefinitely after waxing.

Failure due to these causes only occur during development.

23. **The Backing Paper is difficult to Remove.**—This may arise from insolubility of the tissue, as mentioned in paragraph 6, to excessive overprinting, or to removing the backing paper too soon after placing the print in the hot water. When this difficulty is experienced, the print should be allowed to remain a few seconds longer, and a fresh attempt made from a different corner.

24. **Streaks and Markings** appear in the surface of the print as soon as the image is visible. These are mostly caused by not keeping the print completely submerged during the removal of the backing paper, or making long pauses during that operation.

25. **Circular or Irregular Patches,** lighter than the surrounding work, but having a dark margin, which occur in the lighter tones of the picture in the early stages of development, are due to leaving the print too long before stripping off the backing paper. They frequently disappear during the progress of development. The backing paper should be removed as soon as possible after placing in the hot water.

26. **Well-defined Light Streaks, Markings or Patches** may arise during development or in the alum bath. They are most frequently caused by allowing the surface of the print to come into contact with other prints, the fingers, or any solid substance. The film is extremely delicate and nothing must be allowed to touch it until after drying. When re-wetted for double transfer or for mounting it may be touched without injury.

27. **Defects in Drying on a Temporary Support.**—The only failure that may arise at this stage is the film leaving the temporary support. This is caused by drying too rapidly or in a place that is too warm. A cool place and slow drying are very desirable.

28. **The Film may fail to adhere to the final support in double transfer.**—Several causes may produce this defect. Either the final support or the temporary support bearing the print may not have been soaked sufficiently in cold water. At the least, fifteen minutes should be allowed so that the gelatine may absorb water fully.

29. **The Final Support** may not have been immersed in warm water. It may have been immersed too long, or the water may have been too hot. Immersion in warm water is necessary after the long soaking in cold, in order to soften the gelatine coating sufficiently to enable it to adapt itself to the relief of the image, and also to cause it to adhere. The water must be warm, not hot; about ninety degrees being a good temperature. The final support should be immersed for a few seconds only, just until the gelatine becomes soft and yielding. If left soaking too long, or in water that is too warm, part of the gelatine coating dissolves away, and insufficient remains for forming a bedding for the image. The gelatine should be in a semi-soluble condition when the transfer is made.

30. **Double Transfer.**—In the method given in the Practical Photogra-

pher's Library Series, No. 13, October, 1904, p. 26, for working double transfer on drawing paper, the failure to adhere may arise from other causes in addition. The paper intended for the final support may have received too thin a coating of gelatine. From 26 to 30 oz. of a one-in-thirty solution of gelatine should be used for six imperial sheets of drawing paper. This should be applied in three or four thin coatings.

31. The image will also fail to adhere to the final support if too little gelatine is used in making the transfer.

32. **The Film may fail to leave the Temporary Support.**—Although similar in effect, this is not the same defect as the preceding. It is due entirely to insufficiently waxing the temporary support.

The plan of keeping a stock of insensitive tissue, and sensitizing as required, offers many advantages. Additional precautions become necessary, however, to prevent defects arising in sensitizing or keeping.

33. **Insensitive Carbon Tissue will deteriorate** seriously if allowed to become damp. In a dry and cool place it will keep indefinitely.

34. **Defects in Sensitizing and Drying.**—In order to secure uniform sensitiveness, the strength and temperature of the sensitizing bath and the time of immersion must be as uniform as possible.

35. **Spots or Patches** of uneven sensitiveness are caused by air bubbles forming either on the back or the face of the tissue. Care should be taken, immediately after immersion, to remove any that may have formed.

36. **The Sensitizing Bath** should always be alkaline. An acid solution produces partial insolubility of the tissue.

37. **In Drying Tissue after Sensitizing,** if it is allowed to remain on a ferrotype plate, a little of the sensitizing solution must be left between the tissue and the plate before squeegeeing. If the tissue is drained before squeegeeing, and there is no liquid between its face and that of the plate, it will fail to strip after drying.

Drying at too high a temperature after sensitizing will spoil the working qualities of the tissue.

DEVELOPING UNKNOWN EXPOSURES.

THE occasion sometimes arises for the production of negatives from plates that have been exposed, but a record of the exposures lost. Frequently, therefore, although the plates are known to have had a fleeting visit from actinic light, it happens that a remembrance of the subject is the only clue that is followed in the dark-room.

Many other occasions may also arise when the photographer is called to develop plates the exposures of which he is unacquainted with.

A universal panacea for the treatment of difficulties of this description has been suggested in the employment of time development. The many advantages of this method cannot be denied, but although there are a great number of photographers who like to turn out their negatives with the assistance of as many time, labor and thought saving devices as possible, there are as many more who delight in and prefer to have a personal finger in the pie, and use their own judgment—good or bad—when dealing with unknown exposures.

Dilute the Developer.

With unknown exposures, however, the personal element counts for little unless some definite plan is adopted for their treatment.

This treatment, so far as the preliminary stages of development are concerned, can be summed up in the advice:—"dilute the developer."

Every exposed plate must be either

underexposed, normally exposed, or overexposed. If it has been underexposed a dilute developer will do no harm, although a considerable time will probably elapse before the first appearance of the image; if normally exposed a similar developer will give as good a negative as a strong solution, while if the plate has been overexposed, the dilute developer becomes a necessity if the negative is to be saved. In other words, a very dilute developing solution permits the characteristics of the exposure to be observed more easily, and gives more opportunity for control if the plate is overexposed, without in any way endangering the final quality of the image.

Stand Development.

If several plates have to be expeditiously dealt with and the exposures are not known, no better method of treating them to a preliminary bath of dilute developer can be suggested than in the employment of a grooved developing trough, as used for stand development. The developer acts in the same way on the vertical plate, but should be a trifle stronger than for normally prolonged stand development.

If four ounces of normal strength developer are added to four pints of plain water and the trough filled with the mixture, the plates can be slid straight into the grooves and left for a while without attention.

Of course, if only one or two plates are being developed, a dilute developer made in the above proportion can be used in an ordinary developing dish, instead of the grooved trough.

A "Universal" Developer.

The following formula for making up a developer is one that can be depended upon for use with practically every brand of plates on the market. Being in three solutions it is far more amenable to modification and control than a one or two-solution developer, as its constituents can be altered to any extent to suit individual cases.

It is clean and non-staining, and may be used repeatedly until exhausted. A trough full of the diluted developer can therefore be kept ready for use for weeks if well covered.

A.

Hydroquinone	180 grs.
Sodium sulphite	3 ozs.
Potassium bromide	20 grs.
Water	20 ozs.

B.

Metol	140 grs.
Sodium sulphite	3 ozs.
Water	20 ozs.

C.

Sodium Carbonate	3 ozs.
Water	20 ozs.

The normal developer is composed of equal quantities of A, B and C. This gives a clean negative of good printing quality and color. For subjects containing violent contrasts better gradation is secured if the normal developer is diluted with an equal bulk of water.

For overexposure increase the proportion of A; for extreme cases treble the quantity of A, and add an equal bulk of water and one dram of 10 per cent. solution of potassium bromide.

For underexposure decrease the proportion of A; for extreme cases omit A altogether and use equal parts of B and C.

Overexposure.

Overexposure is the principal cause for anxiety when dealing with a batch of unknown exposures. Undertimed exposures can remain in the dilute developer with no ill effect if kept well covered up. The correctly exposed plates will probably develop slowly and evenly, and with perfect gradation if allowed to remain in the trough.

It is the cases of extreme overexposure that require to be dealt with promptly, if printable negatives are wanted without having to resort to after reduction.

If the grooved trough is used, the plates, after they have been in the dilute developer for half a minute, should be taken out and replaced in a reversed position. This permits the developer to act evenly on the film, and the operation

should be repeated every time the plates are taken out and examined.

After they have been immersed for a minute or so, any cases of abnormal exposure will soon become manifest. Even in this dilute developer the image will become faintly visible all over the plate as distinct from the indications of under or normal exposure, when only the high lights appear a considerable time previously to the half-tones and shadow details.

As soon as an overexposed plate is thus observed, it should be at once removed from the developer and transferred to a dish of water, to which several drops (10-20) of a 10 per cent. solution of citrate of soda have been added.

This practically stops the action of the developer, but permits the image to be slowly built up later by application of the very restrained developer given above.

Development in this solution will be rather slow—say 30 to 90 minutes—but if the development is accelerated the negative will suffer. Very bad cases of overexposure can thus, when ascertained by the preliminary application of a very weak developer, be overcome, and the plate made to yield a negative equal in gradation to a perfectly exposed specimen.

Under-exposure.

If after the plates have remained in the first dilute normal developer for five minutes and no indications of the image appear, one should be taken out and a normal developer diluted with four times its bulk of water applied.

In this solution the extent of the exposure will soon be shown, and if it is a case of bad underexposure, which will be betrayed by the high-lights coming up in irregular patches, leaving the shadows unaffected, the plate should be placed in a dish of plain water and a developer made up for underexposure as given for the previous page.

The plate is then transferred to this and allowed to remain until the half-tones are out. It is then placed again in plain water and covered up, and if time is no object, it may be left for an hour or two while the other plates are dealt with.

All possible detail will be brought out by this long soaking without clogging up the high lights. Final density can be obtained by finishing the negative in the normal developer.

The plates that give indications of having received correct exposure can, of course, be dealt with in the ordinary way or allowed to remain to develop out in the dilute developer.

The foregoing methods are not suggested for adoption by the photographer who prefers to develop all exposures right out by the factorial system and depend on after-treatment to secure printable density and gradation, but for the worker who has a fair amount of time to devote to a subject that needs very careful attention if this after-treatment is to be mitigated.—*Photographic News.*

POLITENESS IN THE STUDIO.

BY W. G. HARRIS.

WHEN our president wrote me that he wanted a few words to-night on any subject, I hardly knew what to give you my ideas on, but there came to me a thought we seldom hear of. A few years ago, on my first visit to the far West, I noticed that everyone on meeting me and continually thereafter had a ready handshake and a good, honest smile. The more I saw that smile and felt its influence of good will, the more I became convinced that if I added that general agreeableness to my own stock in trade, the more friends I would make and the more friends the gallery would have.

Before this, I had been so busy with

my improvements in photography that I never thought of myself and the influence I might have on sitters and customers. About this time I met and entered the employ of that prince of good fellows and wonderful business photographer, the late F. H. Bushnell, of San Francisco. From him I learned one of the best "business getters" that I have ever known, namely, "Agreeableness to Your Customers."

We may apply this art in many ways to ourselves, for, as he used to say, many a photographer could make elegant work but never rise above a "small fellow" through his lack of this most necessary quality. You know, I know, we all know that it is hard enough work to get customers in our places, then why not hold them, first, by good treatment—yes, the very best treatment. Especially when it is so cheap and easy. That is, after some little practice for some of us.

I know a photographer of wonderful ability in our art who is not a business success. Yes, we all know them. When visiting a friend of mine who knew this particular photographer, I asked him why So-and-So was not more of a success. Quickly and earnestly the answer came, "Why, if you ever had had your picture taken by him you would know. You would not want to go back there again. He is the most disagreeable cuss I know." So it goes.

Did you ever stop to think that we, as photographers, have the greatest business card of any business Why, just think of it, we produce on all photographs our name and address—stamped, written or printed—and customers buy them by the dozen as a usual thing. We make one dozen photographs, send them out, and, if they please their receivers, we have a chance for twelve new customers in the course of time. That twelve dozen going out will repeat itself until you have photographed the community in this endless chain of advertising!

Each photograph is a complete card, all you need now is the extra boost your first customer will give you if you have impressed him with your agreeableness, and if you carry it out on all the rest there is no end to it. We must begin our agreeableness when they first come in and continue it to the very end of our relations with them. When they have their sittings, when their proofs are shown, and especially when they have re-sittings; when the work is delivered, and often when it is not delivered.

Most of us find it easy to be agreeable in the first sitting, and with the customer that finds no fault. But it is hard to be as agreeable to the perpetual re-sitter and the fellow who won't accept the finished work. But you must be. Do you expect him to boost your gallery when you force him to take twelve photographs that he only throws in the fire? Your being disagreeable by making him take the twelve photographs he does not like causes you to lose twelve business cards that have an attraction to them that make twelve people who receive them look at your name—and, chances are, pay your gallery a visit. No, you would rather lose that chance by your disagreeableness and lose your present customer by forcing the work on him. Then, nine chances out of ten, you ruin your future business with this man and his friends, breaking your endless chain.

COARSE GRAIN IN NEGATIVES.

A SLOW plate, one for instance used in making lantern slides, has a much finer structure than a very rapid plate. But I do not refer here to coarseness or fineness of grain of emulsions, but to the coarseness in negatives sometimes occurring during hot weather manipulation, a condition of things which is not blamable upon the inherent quality of the plate itself.

This coarseness of grain does not make its appearance during development or

directly after it, but shows most annoyingly after the plate is dried.

The negative which up to this time has delighted us with its clearness and softness, suddenly, as it were, develops a granularity often presenting the appearance as if the exposure had been made through a fine-grain screen such as used in making half-tone negatives. You might call it a variety of frill, but it is not exactly a frilling and seems to arise from a decomposition of the gelatine. I believe it is due to the protracted drying incident to muggy, humid, hot weather, for when the weather is even at torrid heat and the air dry there is not so much liability of encountering it.

The remedy would seem therefore to have recourse to some method of quick drying. During the humid, Summer weather frequently patches of wet persist upon the negatives even though drying has been going on all night.

These patches are of different density from the rest of the negative and require extra retouching if not to be apparent in printing. During hot weather ice water should be used both in developer and fixer, but nothing is so effective to secure rapid drying as the use of formaldehyde.

Immediately after development rinse off the plate (if pyro is used a good rinse is necessary) with ice water, then place it in a weak bath of formaldehyde (1 dram to 10 ounces of water). Rock the plate for a minute and then place in hypo.

After fixing, a second bath in formaldehyde had better be used as a precaution. The negative is washed in running water for twenty minutes. The formaldehyde so hardens the film that even artificial heat may be used to dry the plate. But one must be cautious not to rinse the plate from the formaldehyde when subjecting it to artificial heat. It must be dried directly in taking it from the formaldehyde, and then considerably high temperature may be used. If a flame is employed, do not hold the negative too close or unevenness will result. The electric fan is the best means to expedite the drying of a film.—*Journal of the Photo. Society of Philadelphia.*

PHOTOGRAPHERS' ASSOCIATION OF WISCONSIN.

THE tenth annual convention of the P. A. of Wis. was held at Milwaukee, Wis., April 24th, 25th, and 26th, President Berryman presiding.

Mayor Sherburn M. Becker, of Milwaukee, delivered a short address of welcome to the photographers present.

The reading of the minutes of the previous convention was dispensed with, and the reports of the Secretary and Treasurer were read and accepted; the same showing the financial condition of the Association to be very satisfactory. Short addresses were delivered by J. C. Howarth, F. F. Hazelett, J. M. Bandtel and E. C. Berryman.

Mr. Berryman's address was in part as follows:

"Ladies and Gentlemen:—It is with no small degree of pleasure that I greet you on this, the opening day of our tenth annual convention. Photography has grown at a rapid rate in all branches. Many new fields have been opened up, and the future offers great possibilities.

"Thirty or forty years ago a camera was a rarity, and the enthusiast who possessed one, carried a mountain of traps afield and smothered in a tent during his tedious manipulations of the wet plates. Last year the United States alone made three hundred thousand cameras of various kinds, and photographic business reached the respectable total of $20,000,000.

"Such figures, though, do not even hint at the true extent of the sun's aid in obtaining exact copies of anything that the eyes can see. If one were to tell the ordinary man that photography has a more pervading influence on his business life than any other one discovery of

which we have an authentic record, he would probably be highly incredulous. Yet it is an indisputable fact.

"During the next three days you will have the opportunity, not only to study the many excellent examples of photography on display, but to hear lectures and talks from those mentioned in the program, and others, and also to see the various demonstrations from which you should make it a point to gain all the knowledge possible."

Brief remarks were made by Vice-Presidents F. W. Schneider and B. J. Brown. Mr. Brown's remarks related to the Milwaukee Photographers' Association, which was organized two years ago and which is in a flourishing condition, and has the effect of establishing a better feeling among the local photographers.

It was suggested by the Secretary, that members of the profession should organize in all cities and States, and that all the associations should co-operate for the advancement of the profession, artistically and financially.

The Secretary also called attention to the program for Wednesday, and strongly emphasized the importance of attending the conventions, and especially the lectures and business sessions of the Association.

April 24th, 1906.

The morning session was called to order at 9.30 by the President, and the Nominating Committee proposed the following names for the several offices:

For President—B. J. Brown, of Milwaukee.

For First Vice-President—W. A. Pryor, of La Crosse.

For Second Vice-President—W. J. Hillman, of Richland Center.

For Secretary—J. M. Bandtel, of Milwaukee.

For Treasurer—A. A. Bish, of Chippewa Falls.

On further nominations for President being called for, the names of F. W. Schneider and W. A. Pryor were proposed. The first ballot resulted in no election. On the second ballot, Mr. Brown received a majority of one vote, and was declared elected.

All the other candidates were duly elected by consent. W. A. Pryor, First Vice-President; W. J. Hillman, Second Vice-President; J. M. Bandtel, Secretary, and A. A. Bish, Treasurer.

The Secretary addressed the Association at some length, thanking the members for their expression of confidence and good will. His election to the office of secretary for a sixth term, he said, seemed to him evidence of approval of his efforts in behalf of the Association. He called attention to the fact that the continued support of the membership was necessary in order to make the work of the officers effective and to insure the future success of our conventions. He asked for the loyal support of the members, for their officers, and earnestly requested the attendance of every photographer at the next convention, and especially to take part in the exhibition of pictures and the educational and business sessions of the convention.

After some discussion it was decided to hold the next convention again in Milwaukee.

April 25th, 1906.

The afternoon session was called to order by the President at 3.20. The principal feature of the educational session was the lecture by Sadakichi Hartmann (Sidney Allan). The lecture was a most excellent one, and very highly appreciated by the photographers present. Mr. Hartmann told of the gradual improvement in photography and how the business should be conducted in order to elevate it and make it more and more prosperous. A vote of thanks was tendered to the speaker for his excellent lecture.

Mr. S. Lawrence then gave a lecture on the selection and use of lenses for the various kinds of work, and a general discussion by the members and visiting photographers followed.

In the evening, at 8 o'clock, the members and their friends assembled in the auditorium of the St. Charles' Hotel, where a reception and musicale were

given under the arrangement and management of Mrs. B. A. Rice.

April 26th, 1906.

The morning was spent in demonstrations in toning, etc. The afternoon session was called to order at 3 o'clock, and Mr. Hartmann criticised a number of pictures taken from the walls of the Art Department.

The report of the judges was as follows:

The "Werner Trophy" was awarded to B. J. Brown, of Milwaukee.

The "Rice Trophy" was awarded to the Striffler Studio, of Marinette.

The first award in class "A" (a gold badge), to H. J. Leonard, of Racine.

The first award in class "B" (a gold badge), to J. H. Field, of Berlin.

The second award in class "B" (a gold badge), to the Striffler Studio, of Marinette.

The picture selected for the Association Salon, was taken from the exhibit of H. J. Leonard, of Racine.

Mr. A. A. Bish, of Chippewa Falls, then read a paper which we have pleasure in printing at length elsewhere in this issue.

The Secretary then delivered a short address to the members, and extended a cordial invitation to all photographers in the State and adjoining territory, to join with us in our next convention, and by so doing, help to make the convention of 1907 a still greater success than those of the past.

A rising vote of thanks was tendered to President Berryman for the excellent manner in which he conducted the sessions of the convention and the interest shown by him in the work of the Association.

Demonstrations in posing, lighting and negative making were conducted by the representatives of the various firms, and others. Some of these demonstrations were made with the "Aristo Lamp" and others with the "Woodward Lamp."

Both the Active and Associate membership expressed their satisfaction with the success of the convention; the general opinion being that it was the most interesting one that we had ever held, and that much interest would be taken in the convention to be held next year.

Fraternally,

J. M. BANDTEL, Secretary.
Milwaukee, Wis.

CALIFORNIA PHOTOGRAPHERS' RELIEF FUND.

List of Contributors, Metropolitan and Western Sections of the Professional Photographers' Society, of New York. Contributions from Manufacturers.

Rochester Benefit Performance.

UNDER the auspices of the Rochester Division, Western Section of the P. P. S. of N. Y., a very successful benefit concert was given at the Cook Opera House May 6th. The proceeds of the benefit were devoted to the fund the Western Section is raising for help of the Californian photographers.

The boxes were sold by subscription for $25.00 each to the following firms and individuals: Eastman Kodak Co., Bausch and Lomb Opt. Co., Century Camera Co., the Rochester Optical Co., Defender Photo Supply Co., Gundlach-Manhattan Co., Wollensak Co., Seneca Camera Co., Empire Moulding Works, J. E. Mock and Dudley Hoyt.

Prominent members of the Rochester Camera Club occupied two large boxes and both amateur and professional photographic interests were well represented.

The net proceeds of the benefit after all expenses have been deducted will reach the $400 mark. When seen Monday morning, Dudley Hoyt, chairman of the Western Section, said: "The fund is progressing steadily. The wave of hysterical gift-giving has passed and has

been succeeded by a carefully considered, business-like collection for a specified purpose. The Western Section will close its lists on May 15th, and will in all probability send something over a thousand to California. All acknowledgments will be made through the press in due season."

Since the receipt of this correspondence we have received a letter from President Dudley Hoyt saying that the fund collected by the Western Section would be distributed through the Professional Photographers' Association of California, and that $500 of the fund had already been forwarded to Secretary E. J. McCullagh of the California organization.

Mr. Hoyt added that the information received by him from the Pacific Coast was such as to lead him to believe that the utmost haste was needed in the collection and forwarding of the different amounts now being gathered, as nearly every member of the profession in San Francisco and Santa Rosa was practically penniless.

Subscribers in Western Section.

The Western Section, P. P. S. N. Y., desires to acknowledge the receipt of the following contributions to the fund for the relief of the California photographers who suffered through the recent earthquake and fire:

E. F. Hall, Buffalo	$ 5 00
J. James Sipprell, Buffalo ..	5 00
H. D. Beach, Buffalo	5 00
J. George Nussbaumer, Buffalo (collected)	15 00
Charles E. Hunt, North Tonowanda	5 00
H. E. Ranier, Manlius	5 00
A. H. Harscher, Pittsford..	5 00
A. B. DeGroat, Bath.....	5 00
A. B. Stebbins, Canisteo....	5 00
Fred. Robinson, Ithaca	5 00
A. J. Richards, Medina.....	5 00
Thomas Smith, Niagara Falls	5 00
E. L. Graiff, Oxford.....	1 00
C. P. Sutton, Hornellsville.	2 00
C. B. Van Buren, Ithaca ..	1 00
Irving Saunders, Rochester ..	3 00
Edw. Calhoun, Rochester ...	5 00
W. M. Furlong, Rochester ..	5 00
J. E. Mock, Rochester	1 00
H. L. Spedding, Rochester..	1 00
J. N. Heberger, Rochester ..	5 00
F. E. Bader, Rochester	1 00
A. L. Lehnkering, Rochester.	2 00
John Smith, Rochester	1 00
I. H. Luce, Rochester	5 00
W. H. Denio, Rochester	1 00
H. C. Gorton, Rochester	5 00
L. DeAmanda, Rochester ...	1 00
C. H. Smith, Rochester	3 00
Marks & Fuller, Rochester..	10 00
N. V. Hibbard, Rochester ..	2 00
J. H. Croughton, Jr., Rochester	5 00
Charles Zoller (R. C. C.), Rochester	5 00
Dudley Hoyt, Rochester	5 00
Rochester Div. W. S., P. P. S. N. Y. (entire amount in treasury)	37 25
L. B. Elliott, Rochester.....	10 00
	$189 23

Theatre Benefit, Total Receipts		$712 40	
Advertising, Printing, Etc	$73 50		
Theatre, Rent	250 00	323 50	388 90
			$578 13
Small Contributions			4 95
			$583 10
May 9th, New York Draft, Payable to Secretary, Photographers' Association of California			500 00
Balance			$83 10

DUDLEY HOYT, Chairman.

The Manufacturers.

The following contributions have been received from the manufacturers:

Eastman Kodak Co. (in merchandise)	$1,500.00
G. Cramer Dry Plate Co. (in merchandise)	500 00
Bausch & Lomb Opt. Co.....	250.00
J. Di Nunzio	50 00
C. P. Goerz Optical Works	50 00
Burke & James	50 00
J. W. McCabe & Co.	50 00
Berlin Aniline Works	25 00
J. H. Andrews, New York	10 00

Subscribers to the National Relief Fund Amounting in all to Date, $617.

The following list has been handed to us by the Committee on Publicity of the New York Section of the joint National Relief Fund for California Photographers:

New York.—F. Wendell, J. G. Gessford, Chas. Steinberg, E. M. Burrow, Sarony; O.

C. Wurst, P. MacDonald, Photo-Miniature, A. F. Bradley, Fred. Waller, E. Bierstadt, Pach Bros., Miss E. Selby, S. J. Scherer, Curtis Bell, Alman & Co., L. P. Ames, Geo. H. Rockwood, Mrs. G. Kasebier, C. B. Schaider, Wortz Bros., Miss A. Bingham, H. Mishkin, J. Schloss, S. H. Lifshey, B. Fredericks, B. J. Falk, Miss H. Lohmann, N. L. Coe & Son, J. Hall, J. Fisher, W. A. Morand, O. Brunbeck, Davis & Eickemeyer, E. B. Core, Sam Newman, O. G. Mason, Luigi Favata, I. Underhill, J. A. Pollock, Dubois & Nolling, Wilson's Photographic Magazine, H. Hendrickson, M. W. Penfield, L. H. Dreyer, A. C. Kalt, Aimé Dupont, Mandelkern, A. Werner, W. T. Ross, C. E. Bolles, R. Stollmach, C. S. Harding, J. G. Gardiner, J. C. M. Stone, F. D. Le Clear, W. Spiess, T. C. Marceau, J. Byron, P. C. Byron, Miss A. Weiss, R. W. Phelps, B. McIntosh, G. W. Friedrichsen, W. G. Farrand, G. G. Rockwood, A. A. Knox, C. Blank, McLean, Hollinger Puffer.

Milton Loryea, Spokane, Wash.; Childs Gall, Ishpenning, Mich.; Mrs. Van Fleet, Detroit, Mich.; Rinehart, Omaha, Neb.; M. Ed. Wilson, Savannah, Ga.; A. Friend, Washington, D. C.; H. F. Fine, Photo-Beacon, Chicago; E. A. Bass, Paterson; A. Dozer, Bucyrus, O.; G. S. North, S. Norwalk, Conn.; M. Paap, Hoboken, N. J.; H. R. Medlar, Woodstock, Ill.; C. E. Craven, Kane, Pa.; F. E. Post, Denver, Col.; J. Price, Dover, N. J.; Mrs. Armstrong, Philadelphia, Pa.; No Name, Buffalo, N. Y.; S. S. Riley, Mich.; L. E. Imes, Lansing, Mich; J. H. Lamson, Maine; F. W. Medlar, Spencer, Ia.; R. Hines, Mobile, Ala.; W. W. Darnell, E. Radford, Pa.

St. Louis, Mo.—H. A. Hyatt Supply Co., I. C. Conklin, Ed. Roech, J. C. Strauss, Gebhart Sisters, T. Kajiwara, W. Schiller, J. & H. Arnbumber, Mt. Vernon, N. Y.

FAILURES AND HOW TO PREVENT THEM.

(A paper read at the tenth annual convention of the Photographers' Association of Wisconsin, by A. A. Bish, of Chippewa Falls, Wis.)

THE word "art" "covers a multitude of sins." It may be likened unto a "jack-o-lantern"—the more you follow it, the more elsewhere it seems, and the faster we travel, the farther we get from success, at least many of us seem to do so. There are some reasons for these things—for these half-won, half-lost successes—whether we are endeavoring to be artists in chimney sweeping, in circus riding, in charcoal drawing, in painting, or in photography. One thing certain, it is *not* "luck," for that view of the matter has been thoroughly exploded within the last fifty years, as proven by everyday history of the business world, even if such a view of the matter ever *did* hold true, which is not the case.

To me, one of the principal reasons why we find so many failures and comparatively successful ones, is that too many start out on the road, lacking any definite plan of procedure, armed with little, if indeed any preparation, expecting to force their "natural gifts" into abnormal growth, and too, within a few weeks or months at least. Discouragement usually follows, for, not having been schooled in adversity, we are unable to cope with such apparitions as are sure to beset our path. Therefore, the thing that most concerns the future professional photographer is the character and ability of the class of young men who to-day are being attracted to the business, and the influences surrounding them while they are endeavoring to fit themselves, to become the successors of ourselves.

If the hope of the nation is centered in the children of to-day, so also is the future standard of photography as regards its position in the world of art, and its rank in the business world as well, to be almost wholly determined by the class of men—young men now—who will soon take the places of the older workers. The boy, or young man, who to-day is drifting into the work without any very definite ideas of the same, or natural fitness for it, and especially who is lacking in a general education, and who learns the simple manipulations of plates and paper, in a gallery where cut prices, abuse of competitors, along with loose and oft times disreputable business methods prevail, will hardly become a first class photographer or business man. Sooner or later this apostle of Art is brought face to face with a fuller knowledge of the requirements for actual existence, or in other words, the "bread and butter side of life." He can then run in debt, he can cut prices, he can take up fakes, all, all of which will lead to his complete undoing.

You would not think of sending your son to study law or medicine where there are no books on the subjects, or where there was no professional atmosphere in which to thrive and grow. Or where the man of medicine or the lawyer, employed most of his time and talents to the furthering of some schemes of graft, instead of pursuing his profession in a quite, dignified and legitimate way. Certainly not! Then if you have no moral or professional pride as a photographer, do not be guilty of getting some one else into the business, with like unfortunate attainments. I call to mind now, a case where a bright young man, fairly well educated, and who by nature was otherwise fitted for the business, entered a gallery as a student where many business shortcomings were painfully apparent. This

man practically lost ten years of his business life, for after he left there, where such unfortunate circumstances prevailed, it took him that long to overcome, somewhat, some of the things that he had absorbed while there. It behooves the prospective apprentice to investigate most carefully, before he commits himself to any establishment he wishes to enter. Likewise, the proprietor should be careful to inform himself of the capabilities of his applicant and also to post him as far as possible on the subjects that will make or unmake him in case he decides to cast his lot with us and become a disciple of Daguerre.

A few days ago I saw a young man operating a buzz saw. He had only lately returned from a small gallery, where he went, expecting to learn the business in a short time. He spent some months there, and then left, having lost his time, as well as what he had paid the fellow to teach him photography. The so-called "teacher" having been in the business less than one year himself. As I stood watching him at his new work, I wondered which was the more likely to carve out for him the mystic word, "success," the buzz saw he now operated or the one he had so lately deserted. The American people are appreciative. They are grateful for any favors shown them, and are not slow to reward any special display of talent. The question is, are you ready, fully prepared, to demonstrate today to your picture buying public, that your work has the stamp the very best that you can do, and that it is worth what you ask for it or more? Are you so conducting yourself and your business, that you command the esteen of your local business associates and the patrons of your establishment?

The public, the great throbbing, pulsating mass of humanity, that constantly surround us in our public as well as our private life and with which we come in contact at every turn, have many, yes, very many more ways of finding our measure than we ofttimes know about. We are sorted out; we are compared with other men and other firms in like walks of life; we are sifted and finally placed in the pigeon hole; usually the one our talents and our inclinations seem to best fit us for by a public that is rarely wrong in its final estimate, and just as inexorable, for squirm as we may, we can hardly hope to escape. when once put there. These conditions apply with equal force to the dealer and manufacturer as well as to the photographer, and if you do observe these things you may confidently expect to enjoy your share of the good things here below, for the world is hungering for people who can do things, and who can do them right, without being watched. and who know some things, and who know they know them. In the photographic field to-day, who will carry the messages to the thousands of waiting Garcias?

A few years ago, the late Marshal Field, of Chicago, received a letter from an old friend who was in business in a western town a respected and honorable citizen of the place, but who wished to retire from active life, asking Mr. Field to send him a manager for his business interests. He said he wanted a man who, above all things must be honest, of good education, a gentleman, and one who had a fair knowledge of the business he would be called upon to manage and one who was not afraid to work. To such a man he could pay a salary of $2,500 per year. Mr. Field wrote back to his friend that he himself was looking for just such a man and to one known to fill the above specifications he could pay, not $2,500 but $25,000 per year.

We must all help with our presence, our talents and with our money to sustain these conventions, for they are doing more to elevate photographers and the business generally than can be told in words. Those of us who have been attending these state and sectional conventions for the last twelve or fifteen years, know whereof we speak. There is much yet to do, but let us have the future good of our present labor ever in sight. The "stay at home," or the man who comes here only once in two or three years, and who consequently is not in accord with associations and the aims and purposes of such, can not be considered an authority on such subjects, although he it is who usually offers most of the criticisms on the conduct of the association's affairs.

Shame on you who are only in the business for what you can get out of it! A selfish world indeed would it be if we all took your view of the matter. If you are the slave of your business, it is your own fault, most likely. If you are down in the mire, you can not hope to mend matters by simply sitting by and bewailing your fate. Ours is a noble profession as Prof. Hartmann said yesterday, and we ought to be proud of any part that we may take in further ennobling it. We all can help in some ways with our talents; our money, or by our presence here at these helpful meetings. The day is here now, when the line dividing the progressive, earnest and deserving photographer from the other fellow is sharply drawn. By your presence here, I take it for granted that you are on the right side of the line, and that you are getting enough out of these meetings to fully warrant your continuing to attend and to assist in every way to still further the good work already done.

Portrait photography, in portraying the forms and faces of loved ones, in recalling and preserving most sacred memories of those who would otherwise be lost, buried in the oblivion of the past, and in keeping alive and nourishing affections which the separation of land and seas cannot sunder, in the solace it extends in the homes of the rich and the poor alike, it performs a service that entitles it to a grateful people, as one of the most subtle blessings known to mankind. What

memories of joy and sadness are recalled when we look again upon the picture of a father, mother or friend who long since has passed away, and when we look again and the vision grows stronger and they seem to stand again by our side, and as we see them again through our tears, we exclaim, Thanks, thanks, noble art!

TRADE NOTES.

THE camera catalogues become more attractve than ever. The new Kodak catalogue, with its handsome Darby and Joan cover, contains sixty-four pages of interesting matter for the camera worker.

The ambitious picture-maker will find the proverbial long-felt want more than filled by the latest addition to the Kodak family, the new No. 4, A Folding Kodak. Following the lines of the well-known No. 3 A. F. P. K., the size of the picture is increased to 5¼ x 6½ inches. A special feature of this camera is the optical equipment, the lens and shutter being such as is ordinarily furnished with the highest grade 5 x 7 cameras. It is not in the least complicated and notwithstanding the large sized picture it takes, it folds into a smaller compass than one would believe possible, when closed measuring only 2⅝ inches in thickness.

In landscape work it affords great scope for the composition of the picture, used either vertically or horizontally. By means of an adapter the camera becomes available for glass plates. The price of this new camera is $35.00. Ask your dealer for a catalogue, it will interest you.

"AIDS TO ARTISTIC AIMS" is the title of a well illustrated booklet put out by the Bausch & Lomb Opt. Co. Every other page is a picture, and the other pages are devoted to descriptions of some of the Bausch & Lomb anastigmats, especially those for hand camera work.

If you have not decided upon a lens for your hand camera outfit, get a booklet and it will help you.

FROM the Yunit Chemical Company of Rochester we have just received a copy of their new list of materials for photography, listing and describing at length the various specialties manufactured by this firm.

We have used the goods ourselves and have no hesitation in recommending them to our readers. When you deal with the Yunit Co. you get the goods delivered free at your studio. And you have their guarantee that the goods are as represented or your money is refunded. If you have not tried the Yunit Products it will certainly pay you to write for particulars.

THE "SILENTO" shutter has made an instant success. The Kalamazoo Shutter Co writes that they are already unable to meet the demand. From letters we have seen, we gather that it is the most practical and silent shutter now on the market. Get in line with your order to secure early delivery.

WHY COOKE LENSES EXCEL is the bold headline of a new display hanger issued by Taylor, Taylor & Hobson, Ltd. The reason is unfolded in a series of diagrams that tell the story both plainly and pointedly. Look for it at your dealers.

WE are glad to notice the rapid growth of the business of W. H. Murphy & Co., of New York. Starting some two years ago, this firm has come rapidly to the front. They carry very full lines of all the best photographic specialties and apparatus. Their line of high-grade card stock is one of the biggest in the East.

Photographers in search of fresh goods and prompt service will do well to give this firm a trial. It will pay you to look up their announcement on another page of the magazine.

TO THE EDITOR.

DEAR SIR:—We beg to announce through the medium of your valuable columns that the firm of Telgmann and Torka, of San Francisco, our General Agents for the Pacific Coast, have resumed business at 1107 Turk Street, same city. They will carry in stock, as heretofore, a complete line of our goods.

Their new construction and repair department will be fully up-to-date and provided with greatly increased facilities. Their factory is being built on a very much larger scale, and is being fitted at a considerable expense with improved machinery of the very latest and most approved design.

We will gladly extend, through Messrs. Telgmann and Torka, all possible facilities to photographers who have lost their belongings in the recent catastrophe and help them to reopen business either through the loan of lenses and apparatus, or by extension of credit whenever necessary, or any other means at our disposal.

Thanking you for the insertion of the present lines, we remain,

Yours very truly,
C. P. GOERZ OPTICAL WORKS.

EDITOR'S TABLE.

THE New Zealand International Exhibition, to be held at Christchurch, November, 1906, to April, 1907, is to have an extensive photographic department. The committee invites exhibits in the following classes: Portraiture, pictorial photographs, scientific and technical photographs, apparatus and material, process work and lantern slides.

Entry forms must reach the Secretary (Photo Section), New Zealand International Exhibition, Christchurch, N. Z., not later than October 1st. Further particulars can be had by writing to the above address or to this office.

FROM the studio of Mr. T. Smith, Niagara Falls, we have received the best argument yet in favor of his city's claim that Niagara Falls offers special attractions to conventioners. We refer to four very fine pictures of the falls and the cataract. The National Convention offers a combination of business and pleasure that will undoubtedly draw a very large attendance, a convention that promises to be great in every sense of the word held at one of Nature's grandest beauty spots.

MR. JAS. S. RADCLIFFE, of Millville, N. J., has sent us a series of photographs of barnyard fowls, some of which we reproduce on another page of the magazine. From Mr. Radcliffe's description of his experiences, we gather that the hen is not a good sitter—that is, photographically.

Mr. Radcliffe will pardon us if we make a point somewhat at his expense, for the benefit of our readers. In his letter he remarked that he received a message over the telephone from a prize chicken farm some few miles out of town, asking if he could take photographs of poultry. Of course, he said that he could, and made a mental note that the work would help out a quiet month.

The point we want to make is that the live photographer should not have any quiet months. As soon as his studio work slackens he should get out and drum up commercial work. It has great possibilities, but they will not always come over the 'phone unsought.

NEW YORK is at last to have a school of photography. We often wondered why New York did not have such a school. We are glad to see that Mr. Milton Waide has incorporated his school. There is in this a promise of an institution that will be a credit to itself and the city.

A good location has been secured at 32 Union Square, and arrangements are almost completed towards securing a staff of thoroughly competent teachers. Further particulars of the school will be given in our next issue.

THE CAMERA CLUB OF HARTFORD—one of the oldest camera clubs in the country—recently gathered together an interesting exhibition of the work of the leading women photographers in America. Some thirty-two of the leading workers are represented by 200 prints. To Miss Jesse Tarbox Beals, of New York, was given the credit of having the best exhibit. Amongst others, we noted such prominent names as Miss Frances B. Johnston, Washington, D. C.; Miss Mary Carnell, Philadelphia, Pa.; Miss Alice Boughton, New York; Mrs. W. W. Pearce, Waukegan, Wis.; Miss Hannah Scott, Independence, Kas., and Mrs. Myra A. Wiggin, Salem, Ore..

The credit of the exhibition is due to the officers, who are: Dr. Frederick S. Crossfield, president; Clayton P. Chamberlain, secretary; W. S. Jacobs, corresponding secretary; R. La Monte Russel, treasurer; and to H. O. Warner, A. L. Gillette and James Wyper. Mr. Warner has had the exhibition in charge and it was he who collected the pictures.

FROM letters received, we are glad to know that our report of the proceedings of the second annual convention of the Professional Photographers' Society, of New York, which appeared in the May number of the magazine, has given general satisfaction, more especially to those most interested.

CALLING upon Pirie MacDonald a few days ago, we noted with pleasure the official announcement from the Ministry of Industry and Commerce, Paris, of his election as a member of the French Academy, dating from March 1, 1906.

This is an honor of which the sturdiest American may well be proud, and it sits peculiarly well upon the lightsome Pirie.

THE 17th Annual Convention of the Nebraska Photographers' Association, held at Omaha, May 15 to 18, was a record breaker in the history of the Association. Not only was the attendance greater than at any previous meeting, the exhibits were more numerous and of a higher quality. Next year's meeting is to be held at Lincoln, Neb. Mr. Jno. F. Wilson, Pawnee City, was re-elected president for a second term.

PORTRAIT

By Curtis Bell, New York

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. JULY, 1906. No. 595

PHOTOGRAPHERS' ASSOCIATION OF AMERICA

"ON TO NIAGARA"

"ON to Niagara" should be the watchword of all photographers interested in their craft. Are you one of them and are you ready? Have you that exhibit ready to help make the best collection of portrait photography ever shown at a national convention? It is not the large number of pictures we want so much as the high quality of same.

There will be only two classes of exhibit—complimentary, and for salon honors. For the latter the best twenty-five pictures will be selected by the judges to hang as "A Salon Exhibit." What more could you wish for than the honor of having one of your pictures selected as one of the best twenty-five portraits of the convention? Is it not as great an honor as winning a medal or trophy? The convention will be asked to authorize the reproduction of the twenty-five salon pictures in next year's *Association Annual.*

Now get busy and have your exhibit ready. We want it. We want your presence and want you to help make the Niagara Falls Convention the success it is bound to be. The profit to you will be great and it will repay you an hundred fold for the few dollars it costs in railroad fare and a few days' hotel expense.

Pictures may be sent complimentary if preferred. All exhibits sent are eligible for salon honors. Those pictures not selected for the salon will be hung in the complimentary section. Pictures to be sent prepaid, addressed to C. J. Van Deventer, first vice-president, Cataract-International Hotel, Niagara Falls, N. Y., and must be received in Niagara Falls not later than August 3d.

Fraternally yours,
C. J. VAN DEVENTER,
First Vice-President, P. A. of A.

THE MAN BEHIND THE GUN—J. C. STRAUSS.

BY SIDNEY ALLAN.

It is well-nigh impossible to talk ten minutes about photography without mentioning the name of J. C. Strauss. No other—neither Pirie MacDonald's nor the cryptic Steichen's—suggests itself so readily to our mind, comes so easily tripping on our tongue, though we may have never enjoyed the hospitality of the Growlery nor idled away a gray afternoon amidst the roseate pleasures of the Tower room. Strauss, more than any other of his brother craftsmen, has realized the necessity of making concessions to popularity, and he has made them in a broad and brilliant Western fashion. His "shop," with the air of a French castle, with its elegant and yet matter-of-fact equipments and its insolent waste of space, boldly proclaims the advance the profession has made in recent decades, and proves beyond doubt that also a portrait photographer may possess a striking and even pompous personality.

Tall and brusque, with hair that curls, and eyes that twinkle ironically and continually—the sort of man at whom women look regardfully—he lives in St. Louis and has made his studio one of the sights of that lightest and most coquettish of Western towns. He has made the city photographically his own by right of personal conquest.

Twenty-seven years ago he opened there a little shabby gallery, and did the ordinary down-town trade. His work was probably not much worse nor much better than the average encountered in such premises. They represented the attempts through which every young ambitious photographer passes on his way to a knowledge of his own thought and his own style. But he was shrewd; he sized up his competitors; he studied the wants of his time with all its conventions and limitations (over which man has no control); sought how best to turn to account the material he had on hand, and slowly but steadily made his way into public favor, until he completely mastered the trick of pleasing the public. His cleverness in that respect is, in these days, amazing, almost diabolical.

As a portraitist Strauss is what I would call a "brutalist." He does not merely endeavor to control, but actually tries to force the countenance of a sitter into its most favorable expressions. He makes his sitter assume an attitude, a gesture, a twist of the body that he considers characteristic, and then, with bulb in hand, lies in wait for some fugitive expression that will yield a significant and impressive representation of the subject, and lend life and suggestive force to the objective record of the camera. Like a bandit ready to seize upon a victim and rob it of all the beauty it calls its own, he crawls around his sitter, restless as a panther, peering into his face and rearranging the light effect at every moment (his sidelights are frequently the best part of the performance), and when the reflection of a congenial mood flits across the features before him—presto! Before the sitter is aware of it, the thing is accomplished, and you only have the familiar remark of Strauss to his assistant, "Boy, did you get that?"

And the "boy" is so wonderfully trained that he invariably realizes Strauss's intentions. Strauss's operating tactics are really marvels of rapidity. Four to six exposures a minuute are mere play to him. He works his camera like a breech-loading gun. It is very much like target practice at high sea; he aims at a certain facial expression, and whenever any indication of

it appears, he fires away in rapid succession, operating his bulb with amazing alacrity. Also Falk and Pierce deserve the title of "men behind the gun," but there is a difference. Falk, learned as he is in photographic ballistics, is not quite nimble enough to fire away in volleys; and Pierce (really a disciple of Strauss), although courageous enough to sail over torpedoes or any house portraiture obstruction, somehow, does not aim quite as accurately.

And this is, after all, the secret of success of all portraiture of this kind.

Strauss seems to be more versed in the knowledge of human nature, seems to be a more efficient character reader. He has the changes of physiognomy, the range of external appearances at his beck and call. Using a rubber tube of extraordinary length—I have never seen a longer one—his movements are in no way handicapped; he can stand twenty feet away from his sitter and still practice his hypnotic coaxing and invigorating methods.

And he juggles so expertly with rubber bulb and tube that he almost persuaded me that photography was all slight of hand.

The natural fugitive expression is Strauss's strength and weakness. Portraiture of this kind is surprisingly interesting, but a trifle impersonal, not so much as far as the photographer is concerned—this particular method gives as much scope to the display of individuality as any other—but from the sitter's standpoint. A snap-shot portrait—and what else is it!—rarely becomes typical, the exposure is too short to enable one to seize upon the essential characteristics of a face. An idealization is purely accidental. And yet—after many a sleepless night—I have come to the conclusion that it is, after all, the most logical method, and the one which I most heartily endorse.

What the public wants first of all is a natural likeness. Coburns are no photographic commodity. A momentary expression may look at times very queer, notwithstanding that it may be perfectly accurate. No matter how intimately we may be acquainted with a person, it is impossible to compete with the camera and discover all the subtle variations of his or her (as it may be) facial expressions. It is at this point where the genius of the portrait photographer comes in, his ability to read character, to reflect through external appearances the disposition of the sitter. A long exposure, the composite of several fugitive expressions, on the other hand, may be more typical, but it has the disadvantage of being less subtle, more stereotype and less natural. And for that reason, mark my word, the "brutalist" will win out in the long run.

And this brutal inter-penetration into a person's character is really what interests me most in Strauss's work. His workmanship is as elegant and elaborate as that of a dozen other men—not more so and not less. He has, of course, also been influenced, but not to his undoing, by the tonal movement, and indulges in the harmless pastime of painting meaningless pictorial backgrounds into his pictures. But these are merely mannerisms that do not count in the final summing up of his abilities.

What I admire in Strauss is that he works with the true intensity of an artist. His work is visible. He has faith in himself, and is in love with the work he does. His special faculty as a reader of physiognomies is self-centered; it revolves on its own pivot. He has not enriched the world with morbid pictorial fragments like Steichen, but poured forth a rich and vivid stream of average excellence. He is a natural man, who loves all that tends to expand his emotions, and his portraits (mediocre as at least 10 per cent. of them are) are merely the expression of his joy in expensive life. And for that reason I like best to think of Strauss, sitting in his tower room,

when the strain of work is over, giving his friends the benefit of his wholesome, spendthrift nature, his wit, his heart, his intelligence. He is as whole-souled and magnetic a personality as I have ever known, and he is always triumphantly himself.

But what does it really matter what I or anybody else think of him! He is one of the men who has made good in his profession, as well as in his life, and that is, after all, the principal thing in all nooks and byways of our earthly existence.

Strauss is not merely playing a very important role—if not the most important—in American portrait photography of the last ten years; but has also created a mode of doing things in a gallant and lavish way that has attracted and influenced all the photographers of his generation. In his profession he is the most accomplished man of affairs living—master of all the artifices and secrets of pleasing the public and yet, withal an excellent craftsman, an expert portrait photographer, full of originality, insight and selection, whom I admire and whom all, I presume, respect.

PHOTOGRAPHIC ETHICS. *

BY PIRIE MACDONALD.

SOME of the people said to me this morning, "Why did you come down on the last day?" I have been to several conventions and the experience of waking up in the morning, going through your clothes and finding a broken package of cigarettes, a couple of car tickets and a quarter, and feeling as though you were sure you must have had a good time; I know all about that, and that is one of my reasons for coming down on the last day. Then, too, I had a topic, and it seemed to me it didn't fit right in the middle of the joyous period. I have been asked to speak on

Photographic Ethics.

Ethics Webster describes as being the science of human duty. Every other profession that we know of that has been established for any length of time has found itself forced to a system of ethics—a system of understanding, man to man, each to the other realizes that a certain course is the only course which is right, and that all other courses are wrong.

Due to the fact very probably that this profession of ours is so comparatively recent of birth, we haven't been able to get together and arrange a code of ethics. We know individually what we believe to be right and wrong, but we are all built differently and what one man considers right the other man considers not quite right, and the result is instead of a line being drawn absolutely straight, it wavers, and the result is that we do have, as I heard remarked only a short time ago, a lot of petty jealousies. My friends, I believe that they are not jealousies, but largely a lack of understanding of one another.

We have in New York City an organization that has been putting people together in groups, and those people who have been associated most closely together have an infinitely better understanding of one another than any scattered set of photographers of the same number, in the world.

The Duties We Owe.

In considering this question of ethics—and, truly, I do not propose boring you with a long dissertation on the science of right and wrong, but it is absolutely necessary to explain the proposition in order that I may logically draw to an end. In the ethics of photography we have three vital points which we must consider. They are

* An address given before the Washington Convention, 1906.

(1) That duty we owe to the patron.

(2) There is the duty which we owe to the profession; and,

(3) There is the duty which we owe to ourselves.

The duty that we owe to the patron is beyond any kind of question the first duty. Because of this unformed condition that we are in we have been prone to look on the customer, the patron, as common prey; a person from whom we are to extract absolutely everything which is extractable, and give him just as little as possible. When it comes to a matter of the rights of the customer in the negatives which we have made we have been very prone, many of us, to forget, or to at any rate elide the importance of the value of the privacy of the customer. We must definitely get down to some line of procedure; we must get down to an understanding, each photographer with the other, as to exactly how far the line of privacy does go, as to exactly what the customer is entitled to and as to exactly what the photographer is entitled to, so that if a photographer transgresses that law which we have agreed is to be followed, he will be cut off from communication with us because he is not an honorable man according to the voice of photography as expressed in its ethics.

There are many duties that we owe to our customers. The duty of giving our best, the duty of giving our absolute devotion, honor and unswerving fidelity.

Duties to the Profession.

The duties to the fraternity are an entirely different matter. It is a secondary interest as compared with the duty to the patron, but it nevertheless is an exceedingly important one, the duty that you and I owe to one another. When a client comes in and mentions the name of my friend, instinctively I say, even while I do not agree, perhaps, with his artistic theories; even while I think, perhaps, that his work is not what he might make it—I say: "Yes, my friend; a bully good worker." A man who doesn't say that of his friend is no friend, and we should all occupy the position of friends, one to the other. (Applause.) That is the reason for ethics. It breeds equality, that there be no one man bigger than another and no one man smaller than another. The motto of the New York State Society is "Equality." Equality is the foundation of ethics. You will find as you look the matter over that unless there is absolute equality it is impossible to agree on any common ground. Unless there is the feeling of equality it is impossible to do that duty which we owe one to the other.

I claim that it is the duty of every photographer to every other photographer to lead the next man to the point that he believes is the proper one to occupy; not necessarily the right one, but the one he believes is the right one to occupy. And so we might follow this subject through.

Dignifying the Profession.

Every once in awhile somebody says we must dignify the profession, and beyond any question it is true; we must dignify the profession. We must dignify the profession by acting absolutely honorable every time. We are undignified as a profession. Frequently we do find people who do unprofessional things, things we know are unprofessional and the result is that a while ago I went to an affair dressed as other gentlemen were dressed, and I believed myself entitled to as much respect as any man in the room, and a man who is in the rubber business said to me:

"Going to make a flash-light of the bunch?" (Laughter).

And I said to him: "Are you going to sell some of your damned old rubber hose?" It was the only opportunity for getting even. But you know truly that if we go to an affair of that kind as a professional man we should not go disguised as waiters; we should go as professional people, do our work and get out and not crowd in in a suit of evening clothes and try to do two things at once. And if we do go in as gentlemen we should protect

ourselves as I then protected myself. (Applause.)

When it comes to real fraternity; when it comes to getting together really closely getting together and getting down to the essence of the term fraternity, there is one thought I want to give you. I believe it to be an absolute truth. I want you to remember that "what you give will be returned to you in kind." I want you to believe with me that just so sure as you lead a fellow craftsman off with a lie, just so sure will you be lied back to. There are people who have had trust misplaced in them, but I believe that the average will hold mighty good, that every time you do give out honestly and squarely a piece of encouragement, a piece of heart, a piece of knowledge, that the same thing in kind is returned to you. (Applause.)

The only possible basis on which a code of ethics can exist is that we must give and not always take; that we must hand out what we believe to be right; that after we have agreed to a thing we must live up to it, even through its cuts.

Our Duty to San Francisco

To-day we are in a position that is unusual. We have a question before us that cannot be handled by ethics. Out in 'Frisco they have a condition that calls away beyond any call of duty. I notice that the firemen of New York City are collecting a fund to send to the firemen, and the authors and painters and all of the trades and fraternities are getting together and sending out money for the benefit of their particular line of work. Here is an opportunity to show that you can act beyond the rule, beyond what is laid out to do; that your hearts must lead you. Our New York Association has received a communication from a man whose man is a household word, a man who has been in business many years and who had one of the finest studios there; a man who until a couple of weeks ago was possessed of many thousands of dollars in equipment and a place capable of keeping him thoroughly well. When he wrote the letter he was being fed by strange hands, his wife and children being contributed to out of the charity fund. This is a digression from my theme, and I merely want to urge on you to seriously think of protecting our own in 'Frisco from humiliation. I want to call to your attention the fact that we must not deal out charity, but help reestablish them in an honest, reputable business; that we must put our own people on a sound footing and not let them drag after everybody else. This fund has not been properly subscribed to. I am not here pleading for the fund in any personal capacity, but I feel that we have not done what we should have done.

I was brought up in New York State and am reminded of an old farmer who needed money and one day he came into town, went to a friend and said: "George, I have got a little note here for a hundred dollars, and I would be greatly obliged to you if you would let me have the money on it." The man picked up the note, looked it over and said, of course he would be glad to do it, but just then he had no money, "but I'll tell you what I'll do; I'll indorse it." The farmer thought that was letting him down a little bit easy, so he said "thank you," and went on to a second man and he indorsed it, and the third man was just about to do so when the farmer said, "No you don't; no more indorsements; that's no petition, that's a promissory note," Now, I will tell you we have been doing too much indorsing and haven't gone down in our clothes for the cash, and those people out there need the cash. I am going to stop on that subject. I believe every man knows what he ought to do better than I can tell him.

The Section Idea.

Over in New York State—we never talk about anything else but "New York State," you know; it kind of gets on the tongue and rolls off. Over in New York State a couple of years ago it was felt that an organization of photographers should be perfected. On looking the ground over we decided that a meeting once a year was not adequate. We found

that out by experience and our friend Seavy will probably remember the instance, that when the National Convention was cut off two years the thing didn't go. If it had been put off for four years you wouldn't have gotten even the officials together. The result was that away back in Chicago in ninety something or other we decided it was necessary to hold the national convention every year in order that it might be kept warm. The truth is that to hold a meeting once a year only, you only keep in touch by your finger tips, you don't really get hold of one another; you don't get on to each other's favorite yarns and don't know how much to discount (laughter); so in New York State we arranged to divide the State up, secondarily to the State Society, into what we called sections. We have, for instance, in New York City, a section composed of about forty-five members. Then there are centers at other points; at Albany, another centering about Rochester, and another section has recently been formed on the Hudson river centering at Poughkeepsie, half way between New York and Albany. The effect is, that while this is only our second year there were 350 people at the convention. It is true some came from outside of the State, but the main part of them were people from inside the State of New York. In New York City we have over forty who attend the meetings of the local society regularly every month.

When we first organized the New York City section I went up and down Fifth avenue and called on some of the people three and four times, but they said "No, no; the thing won't go; we would like to go to accommodate you, as far as that is concerned, but there is Mr. So and So down the street—" and I got every man to go there as my personal friend, to meet me, because I wanted him to; and we got through with the business of organization in about three-quarters of an hour, and then they "chewed the rag" for three hours, just tickled to death to meet one another. People who had lived on the same block for years went there and didn't know each other's faces and each believed the other man was a crook (laughter). That unfortunately is the condition in other places. If you see a man from some particular town he says, "I like Mr. So and So" in such another town, "but the man in my town, he is bad."

In New York we have the bitterest kind of competition. We do not get much more money for our pictures than people in smaller towns, where expenses are much smaller, while our expenses are enormous, and it means that in order to preserve ourselves we have to go in and compete, and the bitterest competitors are the best of friends in New York—you see the word comes in all the time.

Some of you are going to point to the fact that at this past meeting in New York there was a bit of friction between our section and the executive. I believe that we were right, and I guess that the executive believed as honestly that they were right, but the very fact of there being a division of idea proves the necessity for the section; in one town from the interest in another; it proves that there is a separated interest, it proves that Pittsburg needs something that the District of Columbia does not need; it proves that you are able to get together on a common basis of real friendliness in Pittsburg, and that you in Washington, having common interests, are able to get together.

We never admit any of these Women's Christian Temperance Association people as members because it interferes with the wishes of the majority (laughter) I am very fond of many of them myself, but I am a great believer in the law of the majority. We always arrange so that we have a bite to eat and a drop to drink and a couple of cigars to a man at our meetings, and we don't stand around and wait for people to propose things. Men vie with one another in proposing. One says: "Old chap, I haven't had a drink with you for a long time," and the result is they are glad to see each other and there is the genuine fraternal feeling.

You may say this is a long way from ethics. I want to tell you the section is the birthplace of ethics. I want to tell you it is not among people whose interests are absolutely alike, but among people whose interests are different that ethics can be bred at all. Ethics are made to pull people together to some common end; to pull people together so that they really understand and believe each other.

I hear around the hall some one say, "Well, photographers won't live up to it." I am a member of a conference. In that conference one of the biggest men in America, one whose tongue yields English that burns, I called down so that he apologized publicly for suggesting that our profession was not up to the average morally. I want you to know that we are better than the average morally (applause): that we can and do live together in peace and in harmony, if we know one another well enough. I would like to see you folks next year form a dozen groups and try the scheme out.

MOUNTING PHOTOGRAPHIC PRINTS ON CLOTH.

BY DAVID GRAY ARCHIBALD.

A PHOTOGRAPHER employed on a big contract work where only a certain amount of money could be paid for photographing, cast about him for a means of increasing his income without decreasing his usefulness to the company. The work to be got must be of such a nature as could be done in spare time. He finally hit upon mounting prints on muslin as the best thing to do. From an extensive experience in doing the work he knew more about it than "the other fellow"; the equipment was simple and at hand, while the work could be done lunch hours, etc.

The conditions for doing the work being favorable, he reasoned that many people having accumulations of photographs want them put into a shape they can be made use of. The first thing to do was to get up samples and make prices. These samples included both glossy and mat-surfaced prints in the various grades and kinds of paper he expected to find. Some were mounted on cloth plain; others with flaps to bind them into books, and some were backed up over the cloth with paper to give them "body". Taken as a whole, they made an attractive showing, for the sample prints mounted were an interesting lot.

The next question was to market them, *i. e.*, get the work to do. By showing them in the office, $30.00 worth of work was secured. This being disposed of, outside work was gone after. The soliciting was done both by letter and personal application. The latter way was the best, for then there was no money expense to speak of and an acquaintanceship was established, meaning the getting of other work to do when he could do it.

Here is how he did the work:

Materials needed for the work.

- A number of sheets of ground glass, larger in size than the prints to be mounted.
- Ferrotype tins of good quality, larger in size than the prints to be mounted (These in sufficient numbers).
- A broad paste brush.
- A quantity of excellent paste.
- A good print roller.
- A quantity of good quality soft finished muslin.
- Glycerine.
- A tray to put the prints in to soak. (You mount wet).
- A broad squeegee.
- Benzine and paraffine.
- An electric fan (if obtainable).
- A letter press large enough in size to take the prints and blotters.
- Photographic blotters.
- Pencil, rule, sharp knife, transparent draftsman's triangle and print trimming machine.

The prints are soaked before mounting in a solution of one part glycerine to 30 parts water. I usually dry my prints first so that they get the full benefit of this solution, which is used as a means of keeping them flexible after being mounted. The prints stretch in the wetting so I allow in trimming for it. My 8x10 prints I make short ⅛ of an inch the long way and 1-16th the short way.

If your prints are of sufficient size you can often adopt a standard size a little smaller than the plate size for your finished work. I make my pictures taken on 8x10 plates, 7½x9½. If they are only to be mounted and not to be bound in books I do not trim them before mounting. If to be bound into books, I have a piece of cloth and plain paper project over on the left-hand (bound in) side of the print. The piece of paper should be of the same weight and quality as the print. Leave only 1-16th of an inch between it and the print when both are placed on the glass ready to be pasted; have the paper half an inch or so wider than the flap is to be.

To mount, place enough of the glycerine and water solution in the tray to cover the prints. Allow them to soak in this solution until thoroughly wetted. Then take a print out of the water and place it face down on top of a piece of ground glass, if a mat-surface or a ferrotype tin, if the print be glossy. Place it to the right-hand side of the piece of glass, etc. with the lower edge towards you. At its left-hand side, place paper if you intend to bind. After draining, squeegee the water from the print, working outward from the center to the sides. When all the water possible is gotten rid of this way, rub the back over lightly with a cloth to remove all surface moisture and to insure proper contact of the print to support.

Next apply the paste practically all over the print and support. Do this evenly and do not hurry to mount the cloth on the top of it. The next thing after pasting is to place a piece of muslin on the print, etc. This should be large enough to overlap a little all around. Rub this down with your print roller, using a flat object like a coin to get out any bad ridges. As a rule, moisture will show at the place beneath the cloth where the edges of the print come. After mounting set up to dry. This can be either spontaneously or in the draft of an electric fan. In drying, the main point is to manage to have some moisture left in the print when they come off their support to go under pressure. In fact, I watch them carefully and pull them off often before they become quite dry. When they show an inclination to curl off in part you can try pulling them off. Also feel the back with your hand to see if it seems dry. In ground glass work they usually show the grain of the glass when looked at on the reverse side. When you cannot see the view well, they are dry enough to come off.

Be sure that the surface of the print is not wet enough to stick before putting it between blotters, the next step. Place a blotter down, then a print on top of it, then another blotter, then another print, etc., until all are placed thus. Put extra blotters top and bottom before putting into the letter press and applying pressure. Leave them in the letter press under pressure for twenty-four hours. Longer is better and it is well to change the blotters for others, and drier, when you think of it occasionally. Putting dry cloth mounted Velox prints under pressure to flatten and at the same time putting others more or less damp in the same press and pile of blotters, means having your prints wrinkle at the edges. A piece of thick card-board placed between the two lots will prevent this.

In trimming, measure in two places to the right from the left (trimmed edge) placing marks with a pencil to act as a guide for your straight edge when you come to trimming with a sharp knife. The transparent triangle I use as follows: Suppose I have a building in the view. Then I place the edge of the triangle on a line with a straight line in the picture and the other forms a rule to mark where to trim the edge of the print. The reason I trim off the right edge first

is because I use it as a guide to trimming the others in the trimming machine. I place a ruler over the print near the edge to hold it down when I cut in the trimming machine.

If the prints are to be bound in a book allow enough more of the print on the flap end to make them all come out even on the outside when bound. This little addition to the flap makes the whole piece (print and paper end) equal throughout the collection. Thus I have saved trimming a lot off the end of some prints where a few in the number were shorter in length than the rest. This is hardly noticeable when bound.

If desired you can back your prints by pasting over them again, after the cloth has been rubbed down, and mounting paper on them.

To prevent the prints from sticking to their support I rub the ground glass or tin with a solution of benzine, in each ounce of which 10 grains of paraffine has been dissolved. This is rubbed off as well as possible and then the surface polished with a clean rag. Prints mounted on cloth or glass that has not been used before for mounting do not come off of their own accord. The pasting at the margins seems to hold them on. Such prints must be put under pressure while still moist to flatten properly.

To clean the glasses, etc., before using over again have a tray filled with an alkaline solution of hot water (hot water and "Gold Dust", etc.) at one side of the sink. Put a first glass in this to soak and each time you take one out to rinse under the tap and scrub with a nail brush, put another one in. This soaks until you are ready to handle it. By placing something at the bottom of the tray you will prevent them sticking and make them easy to raise. Stand up on end to drain and then dry with a towel. After waxing, pile up ready to use again.

After the prints have aged in books they flatten considerably and stay flat. They should be kept under pressure when not in use. Whenever possible it is advisable to back the prints with paper.

In cutting up the cloth, I get it into the proper sizes by cutting, not tearing it, for the tearing stretches it at the edges. I have not found any difference in its being cut across the weave or in the length of the bolt of cloth.

After the mounted prints are taken out of the blotters they curl up in the air. They can be drawn under the edge of a ruler so as to make them less liable to curl.

THE PROPER SPHERE OF PHOTOGRAPHY.*

I WISH at the outset to lay down this axiom—"The greatest perfection of any art will be found in the direction in which such particular art has capacities for excelling all others." Let me illustrate. If we wish to see an artistic representation of the human body in the most rounded and lifelike form possible, do we look for it among paintings or photographs? No; we go to the art of the sculptor for it. Again, if we have been looking at some rustic revels, and wish to describe them to a friend, do we sit down to the piano and try to convey our meaning in music? No; we have recourse to spoken words. Such descriptions are attempted in music, but musical composition requires words to help out the meaning, otherwise the music might just as well stand for several different things.

If I am right in the axiom I have laid down, then it follows that in order to get to the greatest perfection in our art of photography, we must follow it along the line in which it has capacities for excelling all other arts. The question, What are these special capacities? naturally follows.

A child by holding a camera and pressing a button can in an instant get

* Extract from a paper read before the Edinburgh Photographic Society by Mr. Alexander Sutherland.

an impression from which first a negative and then a print can be made, containing a mass of accurate and minute detail such as it is impossible to obtain by any other means. That being so, one might reasonably expect that photographers who wished to excel in the craft would embody those two special capacities of photography in their greatest efforts. But instead of that, it seems to me that accuracy and minute detail are the two points from which the modern advanced photographer tries to get as far away as he possibly can. The beauty of the slender, tapering stem, of delicate interlacing twigs, of the outlines of individual leaves, does not appeal to him. Such things are abhorrent to him, and he jumbles them all up together in order to get *"a soft effect."*

Are we who think we see a beauty of form in the massed detail in which Nature often luxuriates—are we who think we see such a beauty of form in a picture sharply defined—entirely wrong? Is this beauty of form, as we term it, something to be hidden and obscured? Is Nature in this particular aspect unbeautiful? I remember seeing, some few years ago, on the walls of this room, two photographic pictures hanging not far from one another. One was the photograph of a valley with birch trees, whose shadows were reflected in a pool of water. The interlacing of the delicate twigs was beautifully brought out. It was a picture beautiful in its composition, beautiful in its clearness, beautiful in its detail. The other seemed to me to be a dull, lifeless picture—practically of a large tree, with vagueness beyond; there was absolutely no interest whatever in it that I could see. Yet the first-mentioned—the valley of birches with their reflections in the pool of water—had no apparent recognition, while to the other was awarded a medal.

Do not, however, misunderstand me. Do not think I am taking up the position of asserting that everything in a picture should be in sharp detail, and that anything far away from that is bad. Nature is seen in widely varying moods, and she is beautiful in most of them. You do not get sharp detail in a misty scene, or an evening effect, yet you may get a very pleasing picture. Each and all of Nature's moods come within the sphere of the photographer. What, then, is my position? It is this, that if you follow at the heels of a sister art—by which, of course, I mean the painter's—and try to get the same effects as the painter can get, then you are apt to lose what is best in your own art of photography. Painting does not lend itself so readily to detail. It is more adapted for broad effects; and for the painter to emulate the camera in this respect would simply be a waste of time. Further, the painter has the great advantage of color. Have you not often, when your camera was pointing at something quite prosaic, but in which there was some little variety of color, been surprised into the exclamation, "Why, that would make a picture!" Further, the painter, when working on a picture, accentuates here and exaggerates there. By so doing he brings out points which otherwise the spectator might not have observed for himself. All that is allowable and proper; these are strong points in his art; and he can do these things and yet retain the appearance of truthfulness, which quality of truthfulness is an essential in a work of art. But, not content with the special capacities of his own art which lie in the direction of precision, clearness, and accuracy, the photographer wishes also to get broad effects. He wishes to suggest, to get an impressionist picture, in fact; and in order to do that he sometimes suppresses—wipes out—all detail, and so throws to the winds the strong points of his own instrument. The result is, of course, neither a photograph nor a painting, but he is happy. He has got thus far away from the "mechanical" part of photography. One day I was in the studio of a man who was making a specialty of enlarged portraits.

"Come," he said; "I have got something good to show you. Look at that: it would almost pass for a chalk drawing." In a clear photographic portrait, taken in a good light, there seems to me to be a certain absolute fidelity of line, an exact reproduction of all the little peculiarities and individualities in the face, a certain roundness, got without excessive shading. In the enlargement I have referred to, the little individualities and peculiarities had been eliminated. It had lost the delicate rounding which photography can accomplish, and it appeared somewhat flat. It certainly did not possess the lifelike look I have mentioned. But it had gained in this, that it would almost have passed for a chalk drawing. "Then you think," I asked, "the further you can get away from photography the better?" "Certainly," he replied; "there is no doubt of it."

The impressionist pictorial photographer subscribes to the same faith, and much more also. Some, I think, go to the length of saying that detail spoils a picture.

Some years ago, when in London (and before I took any special interest in photography), on passing along the Strand, I saw the Kodak premises, where they then had an exhibition on. I went in, and among the exhibits saw a small print which had taken a first prize in its class, a $150 prize. It was the picture of a man herding sheep. Above the sheep there hung a cloud of steam, or dust—I could never make up my mind which; let it go at steam. Vapor, like vagueness, seems to have a peculiar fascination for the photographer. I once described this picture to an amateur photographer. That may or may not have given him the idea, but at all events he shortly thereafter brought me the print of the shoeing of a horse, in which there was a cloud of that vapor from the hoof, which I suppose is composed partly of steam and partly of smoke. He was not satisfied with it. Not long after he again appeared with it, quite satisfied this time. He had worked on the negative till the hindquarters of the horse had almost entirely disappeared—in smoke.

No doubt many of you will have noticed the frequency with which we come across the same subject chosen by the photographer for a picture—Summer, Winter, Autumn, Spring, February, September, and so on. Now, it seems to me there is a wide field open to us which would give plenty scope to our art, and which need not be fettered by any of those limitations which confine us and trouble us so much—I mean those things which would be better out of a picture, but which in some cases we can't well keep out. The wide field I refer to lies in the domain of human emotion. The novelist, the dramatist, the artist follow out their ideas to the letter, make their groupings to suit each case, and depict their ideas, without introducing anything which would be better kept out. Is there anything to prevent the photographer from doing the same? We often meet with attempts, more or less successful, to photograph the humorous, but there are a number of other emotions equally interesting. Is it not worth our while to attempt to illustrate them? You migh try something pathetic.

In my view, the sphere for the photographer in the domain of emotion is almost as great as that of the painter. The painter depicts humor, pathos, grief, and even death. If gone about in the proper spirit, I do not see any reason why the photographer should not essay even the last mentioned.

With regard to this wide field which I claim we have in the domain of emotion, suppose we have not imagination for something original, what then? Well, there is always book illustration to work upon. Did not the great Turner illustrate Sir Walter Scott's poems? For example, there is Gray's Elegy—thought by some the finest thing in poetry in the English language. It is full of pictures. It is true pathos of the finest. Pathos is a complex feeling

made up of the sad and the pleasurable. Sadness alone is not pathos. Pathos is a mild emotion, and its effect is cheering. In the Elegy the poet alternates the joys and sorrows of the poor; he alternates life and death. In the first verse each line would furnish a picture by itself.

Poetry is peculiarly well adapted to pathos, because the pleasure in the verse helps the pleasure in the pathos. Themes like that of Gray's Elegy show pathos in its best form.

I have tried to show you what I consider to be the proper sphere of photography. If my axiom is correct, viz., that the greatest perfection of any art will be found in the direction in which such particular art has the capacity for excelling all others; if, further, I am right in stating that the points wherein photography has capacities for excelling all other arts are accuracy, truthfulness, clearness, and minute detail, then it seems to me it must follow that these qualities should be found in our best pictures. Further, I have indicated a field which seems to me to afford illimitable scope to us, and which is not fettered by those limitations which trouble us in landscape work.

Seeing, therefore, we have so much latitude to work in, is it necessary that we should follow at the heels of a sister art? Our own art, our glorious art of photography, is sufficient in itself. She is our goddess, and if we follow her singly and devotedly, and without, while professing to give her our wholehearted devotion, secretly or openly bowing down before any other shrine, such as that of painting or of extravagant impressionism, then I am persuaded she will not allow us to go without our reward.

SKYLIGHTS.

BY FELIX RAYMER.

In an experience extending over twenty-two years, I have not found two operators that had identically the same style skylights to work. There is always a difference, although it may be very slight. The lights may be the same with the exception that one is longer from the point where it joins the side light up to its highest point. While this difference may not be over two or three feet, it will make a vast difference in the method for working the lights. It is often the case that an operator does not give the size of his light the proper consideration; and yet the size, and its relation to the size of the operating room means much. In fact, good work depends upon the understanding the operator has of the capacity of his light and operating room. There should, if possible, be a harmonious relation between the room and the light. But unfortunately this is not always possible in having the light built into the room. However I make the assertion most emphatically that this harmonius relation can be brought about by the operator.

First.—The operator must understand that to have a large light, and to work that light to its full capacity, he must have a large operating room. And just here I will say that the mistake is often made by operators, in insisting on having a large light, when the room is small. The reason for this insistence, so far as I am able to ascertain, is based upon the belief, that the large light makes it possible to shorten the exposures. This, however, is a serious mistake, if the large light is handled as it should be and the small light as it should be. For example, we will suppose we have a light measuring fourteen feet wide, and that the top light extends upward on an angle of 45 degs. from the side light, four-

teen feet, it would be necessary, if we wanted to use the light at its full capacity, to place the subject at least fourteen feet out in the room, from the side light. Is your room wide enough to do this? If so you are specially blessed, for this would require a room of not less than eighteen feet in width, as there will be a certain amount of space necessary for the adjustment of the reflector, and ground, and also for the purpose of moving the camera around on the shadow side of the figure, if a Rembrandt effect of lighting is to be made. I understand fully that a head screen may be used to screen off part of the top light, and so can curtains be used on the light for that purpose, but in either case it would not be working the light at its full capacity, for there would be a certain amount of it closed off by the use of either screen or curtains. If any of it has to be closed off, what could be the use in having it made so large? Why not have had it made the correct size for the room, and thus have done away with the necessity for curtains or screens. We of course know that in the majority of cases, the photographer had to accept the building in which he had his studio as it was first built; but there is no need for him to place a larger light in the room than the room will accommodate. But if the light is there and it is his desire to secure the best work from it, he should have opaque curtains placed on it so that he can reduce its size to conform to the size of his room.

The subject should be posed at a certain distance from every light, and that distance is determined by the size of the light. The larger the light, the farther from it the subject should be stationed. This is necessary for the reason that there is no time in the making of portrait work when there should be light falling all around the subject, as would be the case if the subject was not stationed out in the room at least as far as the light measures in height. If the light should be fourteen feet high and the subject stationed say ten feet from the side light wall it can easily be seen that there would be four feet of light falling over on the shadow side of the face. This should never be. There should be light falling on *one* side of the face, but grading across to the other side, until it falls off in shadow as deep as it can be made without losing the flesh tints. So we arrive at the conclusion, if the room is fifteen feet wide, the light should never be larger than just enough to permit of placing the subject away from it the required distance for its size. In other words, for a room fifteen feet wide, the light should be smaller than for a room twenty feet in width. The same is true of the room twelve feet wide, and so on.

I will suggest that the subject should be placed directly under the highest edge of the top light. Then look into the shadows, and especially the shadow from the nose. If it runs directly under the nose, the subject should be moved away from the light still farther, or until the shadow extends outward toward the corner of the mouth. If the room is too narrow to allow of moving the subject away far enough, there is but one other thing possible, and that is: *To close off the top part of the light with opaque curtains until the shadow from the nose does run out to the corner of the mouth.*

Now, what effect does this method of working the light have on the exposure? My experience is that it does not prolong the exposure a particle. The reason for this lies in the fact that the smaller the light the nearer to it the subject is stationed, and of course the nearer to it, the stronger it falls on the subject. If we were to take one light, and use it at the same size always, but station the subject at varying distances from it, we would find a vast difference in the exposure. But if one distributes the light over the face correctly for an artistic piece of work, one light will work as rapidly as another. This is provided of course that both lights are of the same glass, such as ground glass, clear glass and so on. I make sittings by a window measuring four feet wide, almost every day, and my exposures are identically the same as given under my large double slant light

which measures sixteen feet wide, and sixteen feet high, measuring from where it joins with the side light. In the use of the window the subject is about four feet from it, whilst in the use of the large light the subject is at least sixteen feet from it. I have ample room to work away from my light as my room is forty feet wide.

Certainly I understand that the subject may be stationed nearer the larger light and the effect of the light controlled with screens or curtains, and in my instructions, it is often done, for this instructs one in the use of screens and curtains so that if they are ever needed they will not be more confusing than beneficial. But for all practical work in a regularly conducted operating room I cannot see the advisability of inviting the light into the room and then shutting it out, so to speak, except for the purpose of *concentration* and *accentuation*,—but that is another story, and one to be handled in a later article.

METOL POISONING.

As a medical man, and more especially as one who has suffered from metol poisoning, I may perhaps be permitted to contribute from a medical point of view to the elucidation of this troublesome affection. I had used metol for some time with impunity before the first attack came on. I knew, however, that metol caused a rash, and, unwilling to forego its use altogether, I armed my fingers with rubber finger-stalls and fancied myself secure. I suppose I was careless; but whatever part of the hand the developer touched, that part always developed a rash. On one occasion I used a sample of a developer which was stated to contain no metol, but the rash appearing in due course, I elicited a confession from the local dealer that it contained a very small quantity of that substance. There appears to be sufficient evidence to prove that metol does cause an eruption of the skin, and, moreover, the symptoms are always the same.

With regard to the medical aspects of these cases, nothing is more firmly established than the fact that a large number of substances will in some persons produce symptoms of poisoning, while to others they are innocuous. This fact applies equally to things taken internally and to those used externally. The victim of this peculiar manifestation is said to have an idiosyncracy against the use of the particular substance employed. To take a typical example. Many persons cannot handle the common Primula olconica of the greenhouse without getting a rash on the hands.

To return, however, to metol. The *modus operandi* of this particular substance is this: It penetrates the thin outer layer of the skin, and attacking the delicate nerve filaments and bloodvessels underneath, causes the exudation of fluid, which appears as minute vesicles or blisters. This is accompanied by intense itching for a while, after which the fluid is reabsorbed, the skin becomes dry and peels off, and the attack is over.

Now since the poison must penetrate the skin to produce its characteristic results, it is evident that anything which tends to lessen the amount of the natural oil in the skin predisposes to metol poisoning. Such factors are: (1) Prolonged soaking in the developer; (2) the excessive use of alkaline or mercurial solutions; (3) the use of hard water and alkaline soaps; (4) the thinning and drying of the skin which occurs after middle life; (5) the abuse of stimulants, which dilate the blood vessels of the skin and irritate the nerve endings. As regards treatment. It follows from the above that all predisposing causes must be avoided. If you will use metol, the fingers must be protected with finger-stalls of rubber, and the whole hand frequently rinsed under the tap during the opera-

tion of developing. Be very careful not to rest the hand in any of the developer splashed over on to the table. Should the characteristic itching indicate that an attack has commenced, the hand should be soaked in warm water for five minutes, carefully dried with a soft towel and then well rubbed with vaselin or any other ointment of a non-irritating character. Don't scratch, and don't attempt to peel off the dry skin; this should be removed with pumice stone. Any kiens which may appear from cracking of the dry skin should be painted with collodion, taking care to get the paint well down into the sore. And lastly, after a first attack, discontinue the use of metol entirely, or you will be certain to get caught again.—J. M. LAZENBY, M. D., in *The Amateur Photographer.*

THE CONVENTION CITY.

SELDOM, if ever, in the history of the P. A. of A. has there been a convention held at such an advantageous point as this year's meeting place presents. Niagara, as everyone must admit, is nature's most gorgeous beauty spot, and our hotel is in the choicest location, right on the bank of the river above the falls. You will notice that I say our hotel, for the Cataract section of the Cataract International is ours exclusively.

Think of it, convention hall, art exhibit, manufacturers' and dealers' displays, and abundant accommodations for members all under one roof.

No necessity for wasting time running about; just step out on the veranda of the hotel, and there are the rapids right before you, five minutes' walk and you are at the brink of the falls.

The Mayor of the city of Niagara Falls is a capital fellow and assures us that the town is ours for that week. The old story of extortionate rates is a thing long past. I never saw a cheaper place to stay than Niagara is to-day. I have but recently returned from there and I am so full of the charms of the place and of the delightful treatment accorded us, I can scarcely stop talking about it.

With all the emphasis I can put into it, I wish to say, *don't miss it,* the opportunity of your life, to see the place if you have never seen it.

C. L. LEWIS.

Black Spots on Platinum Prints.—It will sometimes happen, either through overlooking a pinhole on the negative that ought to have been stopped up, or through some chemical dust falling on the print, that an otherwise perfect platinum print is defaced by one or two very small black spots. Those who are troubled in this way may like to know that it is not difficult to remove these with the point of a knife, or other suitable instrument. They ought, of course, to be avoided in the first place, but if they are present all that is to be done is to pick them out boldly and bodily. After the first few attempts it will be found easy to do this so that the mark left is quite unnoticeable. A penknife should be kept for the purpose, and should be ground down on an oilstone till it is more pointed than it is at first, and the point should then be made as sharp as possible. A convenient tool for the purpose may also be made by putting a very fine cutting edge on a steel pen by means of an oilstone, and using this in the ordinary penholder. The point is inserted under the black spot, and this is almost "flicked" out of the print.

Fine Focussing Screen.—An extremely fine-grain focussing screen may be made by fixing an unexposed dry plate, washing well, immersing in a 5 per cent. solurium chloride. Then wash and dry.

PORTRAIT OF JAS. A. BURDEN

By Curtis Bell, New York

PORTRAIT OF HENRY W. RANGER

By Curtis Bell, New York

RAVVY AND CADDY

By Curtis Bell, New York

A HEAD STUDY

By Curtis Bell, New York

DINING ROOM OF JAS. A. BURDEN, JR.

By Curtis Bell, New York

WOODLAND MISTS

By Curtis Bell, New York

THE DISCOVERY

By Curtis Bell, New York

DINING ROOM, CORCORAN HOUSE, WASHINGTON, D. C.

By Curtis Bell, New York

FOR THE BENEFIT OF THE CRAFT.

OFFICE OF THE PRESIDENT
CHARLES WESLEY HEARN
164 TREMONT STREET
BOSTON

THE replies to the following list of questions propounded by the President of the P. A. of A. are intended to constitute the lines which the *Association Annual* will embody for the year 1906 They deal with subjects of vital importance to every professional photographer; their value consists in your replying to as many as you can give information upon.

Photographers who have not yet sent in their replies to Mr. Hearn at 164 Tremont Street, Boston, Mass., are asked to do so as early as possible.

1. What methods of business development have you found to be successful? This refers to babies' pictures, as well as to adults.

2. Do you make it a practice of issuing announcement cards or circulars during the year, and at what seasons?

Do you issue in connection with same, photographic or any other process pictures, of any attractive subject? Kindly give us information as to what has been successful with you in this line, *and sample of the circular, etc., if available.*

3. Do you employ any special system of "follow-up" letters or cards, to certain new and desirable customers? Kindly state duration of time that the system has been employed, and if the result as you used it was of marked financial benefit.

4. Have you personal knowledge of much benefit being derived by any photographers who have taken up *the scheme now running throughout the country,* of making one fine platinum picture *free* to the holder of certain tickets, sold only to the better class of trade for fifty cents by the agent, who by the way keeps the money? The scheme of the agent is to interest only one of the two or three leading artists in a city to go into it, citing the fact that several hundred families will thus become acquainted with the work of the studio through the work made of this one member. There is the possibility of duplicate sales being made at regular prices. The plan has some sort of a chain attached to it. The writer is personally aware of a number of artists of recognized merit who have gone into it, but only *two* reported in its favor; one was a *new* man in the city, and another the *longest* located and a good artist.

It is desirable that this subject be given publicity, as it seems that many have gone into it.

Are you acquainted with the scheme? Answer Yes or No. If Yes—please state results. Did it pay for itself, and was the foundation of a good and profitable business obtained this way?

5. Do you employ an outside representative to build up trade in lines independent of tickets, or the soliciting of school work? Kindly give suggestions as to lines worked on, and to methods employed.

6. What methods have you found to be successful in getting people to see your work in the studio? Do you have openings, exhibitions of certain things of interest, recitals, etc.?

7. Have you any particular method except by the samples upon your walls—of assisting sales of enlarged pictures of your customers, while they are in touch with your studio on account of orders given? Something on similar lines is often done by having a convenient room

fitted up, with the object of showing would-be purchasers how their own picture would look by throwing it on a screen before them. This requires some

preliminary work, but is very advantageous. Have you other methods?

8. Have you followed up the plan of making other and different negatives of your subjects on speculation *of different sizes?* Have you been able by this means to create a *demand* for sittings of these larger sizes, or are your sales always affected by the speculation you go into? Have you profited by this method?

9. Please give any special system of studio economy by the practice of which you have by this method alone added greatly to your income, and at which the usually conducted studio is deficient in?

10. What prices do you obtain for your waste negatives 5 x 7 and larger?

11. What plan do you pursue to get a market for the sale of your Art Studies. the sale of celebrities, choice scenery effects, etc.?

12. How did you overcome the "Cheap John" competition in your town, which was a serious matter to you at the time?

13. What particular avenues of advertising have been successful with you?

14. Do you request a deposit at time of sitting, and how much? Is it understood

by your customers that this deposit is to secure you from loss if no orders are given?

15. When times are dull or there seems to be a general depression of business have you found it to be profitable by various forms of advertising *which costs you money* to try and force business?

16. *Information wanted.* How long would it take you, if you had the pictures printed, to make a complete change in each of your show-cases at the door, starting from the time you commence upon it, till the case is locked? How long per case?

17. Do you require that all proofs be returned, and charge for same if they are not? Has it occurred to you that good money is lost by allowing these proofs to be retained, ofttimes to be finished by your competitor or by an amateur?

18. Would you join in a movement as a matter of professional courtesy in refusing to finish the proof of your competitor, thereby depriving him of his rightful order?

19. What experience have you had in running branch studios? Do you think, on the whole, they have been successful, or that the extra amount of profit gained has compensated for the loss by inattention to your principal place, with the expected and realized loss of reputation in work produced?

20. As a matter of business, would it not be advisable for the photographer to charge a minimum price of One Dollar ($1.00) for pictures requested for newspaper publication, with credit to be given also as a stipulation?

21. Do you not think that all photographers who demand a good price for their pictures, *giving full value for money received,* are to be commended as being a *present* benefactor, and the *future* hope of our profession? Why are not these prices of advantage to others of less ability to obtain more for their work? This is the argument of one of our leading artists, who likewise cannot understand why photographers are prone to jump upon and berate such a man.

22. Do you not think that a rigid observance of the ethics of our profession

is one of the very best business traits a photographer can possess?

23. Has it ever occurred to you that it may be *yourself* and your own methods that is largely the cause of Photography as a business being in such poor shape in your town, if such is the condition?

24. Will you not promise your fellow members of the P. A. of A., who are fraternally interested in your success, that you will at once see your competitor, ask him (*this is important*) to dine with you, and at that time talk this situation over, that is hurting you both?

(If you don't want to do this, why not organize into a social and educational club, similar to the Lens and Brush Clubs of Boston, Philadelphia, and Toledo, or on the lines of the *Sections* of the New York Society of Professional Photographers? The writer would be pleased to supply a booklet free pertaining to the History of the Lens and Brush Club of Boston upon application.)

25. Do you try to sell customers the pictures *you* like, or try to make a superior product of the kind *they* want?

26. When we consider that the average daily product as turned out from the printing-room must of necessity produce when delivered from seventy-five to one hundred per cent. of our entire receipts in the office (the exact percentage, of course, being dependent on the sales, which the printers have nothing to do with), *is it not advisable for us to have, at least in this department, a daily account of what is done?*

27. If we can estimate the exact cost of our product, *including the "overhead" expenses,* should we not also have a like estimate of what we obtain for our work, so to have a basis to work on, which would enable us to gauge at least once a week, how things are proceeding in our business, instead of drifting along with no clearly defined idea of how we are doing?

(In this connection I would state that one of the largest and most successful photographic studios in the country, where only moderate prices are obtained, is run on a system like the above, except that it permeates through every department. I, however, will only mention the printing-room, which busy proprietors see the least, and are most likely ignorant as to the *quantity* of work produced. If the work is good, this is as far as many proprietors go.

This room is very liable to cause large losses if not economically run, and put you into a hole if a sufficient quantity of good work is not the daily average.)

28. *Statistics wanted.* How many photographers do you know who, having sold out a good business and left that city or town for a number of years, returned and went into business again and had the same measure of success as before? How many have *not* succeeded under such conditions?

29. What suggestions have you to offer to prevent an honorably conducted business, which had previously made large profits, from dying of "dry rot," the most insidious disease that can strike any business?

30. Have you any suggestions as to how your work, and especially a new style of picture, can be prominently brought to the attention of those who do not often pass your door?

31. How can we create a larger demand for pictures, and at Christmas time have them used more for gifts? Have you any advice to offer that will get the trade in *earlier* to sit for these Christmas photographs so this special season would be longer?

32. How can we take better advantage of other seasons in our business?

33. What suggestions have you to offer that will enable us to make money out of our duplicate negatives?

34. How can we best follow up likely sitters so that their initial order can be made to develop more business?

35. If there are other business matters not mentioned above that occur to you—as advantageous to our membership. kindly state them and give your views upon the matter.

CONVENTIONS AND THE GOOD THEY DO; PARTICULARLY THE P. A. of A.

I AM a great believer in conventions and the benefits derived therefrom. I look forward with a great deal of pleasure to the annual meeting of the National Association, with its greeting of old friends and that happy reunion after a year of separation and those pleasant little heart-to-heart talks which make us thaw out and talk shop as we never did before. You exchange confidences with the other fellow (if you are not a clam), and tell him how you did this or how you secured a certain effect. If he has something up his sleeve he will put you wise to it if you only meet him half way.

One of the greatest attractions for me at a convention are the pictures. I think this one feature well worth the expense of attending. At the National Convention you have a representative collection of the best work of the country. You can see how your work compares with that of the man of the East, South, West and North; why his work excels, and if you are not too narrow you will go home profited by the comparison. The national exhibit is an inspiration to me and I go home and try hard to improve my work for the next year. You cannot do this by leaving your work at home—you must send it to the convention; you cannot make the comparison with it on your walls at home. This comparison will surprise you at your own weakness and takes some of the conceit out of us. This is where the convention does some of its good.

A great deal of profit will be derived from attending the business meetings. Do not leave it for the other fellow to attend to. Then when you get home, and read the report in the magazines, criticise the convention because they did not do things according to your way of thinking. Come, attend the business meetings, listen to the lectures, hear the criticisms, and take part in the discussion on business topics. You will get out of the convention just what you dig out of it yourself.

At the National there will be no prizes this year, but a greater honor. All pictures sent, except those marked "complimentary," will be passed upon by a competent jury, who will select twenty-five of the best pictures, taking only one from any exhibit, which will form a salon. Each picture thus selected will be marked with a blue ribbon and either allowed to remain with the rest of that exhibit, or they will all be exhibited collectively on a separate screen. All "complimentary" work will be plainly designated as such, so that all may know that in selecting the salon the "complimentary" work was not passed upon by the jury. The salon pictures are designed for publication in the *Association Annual* for 1907, with the consent of the convention at Niagara Falls. Certificates of salon honors will be awarded, and plans are being perfected for further recognition of these pictures as embodying the standing of professional photographic art for this year.

Join with us at Niagara Falls, August 7, 8, 9 and 10. The profit will be yours.

Fraternally yours,

C. J. VAN DEVENTER,
First Vice-President, P. A. of A.

DECATUR, ILL.

MAKING PLATINUM PRINTS FROM THIN NEGATIVES.

BY A. J. JARMAN.

THE generally accepted view regarding the right kind of negative for making platinum prints from is that the negative must possess some contrast. In fact, some photographers to-day develop the exposed plate so that it is somewhat hard, thus giving a degree of contrast that is only suited to specially prepared paper. This is the reason why the prints made from such negatives in platinum are too hard, the shadows being always printed beyond the limit, bring about the objectionable bronzing. To overcome this last defect, the negative must be doctored by covering the front with a sheet of very fine tissue-paper, then easing the shadows by rubbing over the surface a little blacklead by means of a paper or leather stump; yellow ochre will answer the purpose as well. The application of either of these pigments must be done with skill and care, or the resulting print will show any undue application by merging into the halftones.

The class of negative produced at the present day is much softer throughout than the negatives of only a few years ago, the negatives being made to a great extent to suit many of the modern papers. The artistic tastes of the modern photographer have also been developed to a greater extent, the result being that the negative is made to more closely represent the art principles, or the artistic feeling of the photographer. Consequently the negative is widely different in character than it used to be. Local reduction is resorted to at the present time far more than it used to be, because the desired effect can be thus obtained, which would be extremely difficult to obtain in lighting the sitter. In fact, to secure a perfect negative, it must necessarily be of thin or comparatively thin quality.

To secure a bold and vigorous print from such a negative in platinum demands different treatment. Particular care is required in the printing. In the first place, the front of the printing frame should be covered with a piece of pale blue tissue-paper; in fact, it will prove better still to employ two thicknesses of this tissue, because there are occasionally minute holes that show in the print if a single piece of tissue-paper only is used. If any shading in or stumping is to be done, it can be applied to the outside of the tissue-paper. Pale blue tissue is much superior to white tissue for the purpose. The writer has found this from actual practice both with daylight printing as well as with the arc light. In the case of daylight certain rays are filtered out and the printing goes on more slowly when the printing frame is tissued with this colored paper. Printing direct in the sunlight is best; prints made in this way are very vigorous when developed. If the printing is done in the shade with only one tissue covering it has been repeatedly noticed that the prints so made are much more blue in color than when printed in sunlight.

It sometimes happens that a negative excellent in quality in every other respect is a little too thin for producing a vigorous print in platinum. In such a case the developer must be changed. The following formula answers well unless the negative is very thin; then Formula No. 2 can always be used with advantage. When mixing these developers always use boiling water, poured over the salts in a stoneware crock, the mixture will then be made right, and stirred with a strip of clean glass, and allowed to cool off completely. Filter these developers before use through absorbent cotton, using a glass funnel. Enameled funnels are not reliable for

this work, and tin ones must at all times be avoided.

No. 1.

Potassium oxalate	8	ounces
Sodium phosphate	1½	ounce
Oxalic acid	¼	ounce
Chlorate of potash	¼	ounce
Boiling water	40	ounces

If more vigor is required, add ten drops of a solution of bichromate of potassium, made up sixty grains to an ounce of water. Both the chlorate and bichromate are powerful oxidizers, and aid in giving contrast.

No. 2.

Potassium oxalate	6	ounces
Sodium phosphate	2	ounces
Chloride of potassium (C. P.)	1	ounce
Oxalic acid	½	ounce
Boiling water	60	ounces

As soon as the salts have become completely dissolved and the solution cooled down a little, add eight ounces of glycerine. Stir the mixture well so that the glycerine becomes well incorporated. When the mixture is quite cold it is ready for use. Platinum prints made from thin negatives must be printed in well, so that they appear to be overprinted, for development in this developer.

To develop, take the print by the two top corners, dip this end completely into the developer, draw it through quickly, then keep the print well in motion, remove it and watch the development. At first the image will show up with considerable contrast, when gradually the figure will appear with all the necessary detail. Just as soon as this takes place, stop the development by placing the print in the usual clearing solution, consisting of one part of pure hydrochloric acid to sixty or seventy parts of cold water. Three such baths must be used, allowing ten minutes in each, before thoroughly washing. If the paper is thick and heavy upon which the print has been made, then it must be allowed to remain in the acid clearing bath for a quarter of an hour or twenty minutes between each change; in fact, the rule should be: the thicker the paper, the longer it should remain in the clearing solution. If this point is attended to with thorough washing there will be no trouble on the score of the prints turning yellow.

In the course of a few days it will be noticed that a crust or scum will form all over the top of this developer, a sort of fungus very much like what is called a vinegar plant. This can be removed in one piece and the developer filtered. After this no such growth forms again, the developer improves in working quality. After a few times using, even in this solution further contrast can be secured by the addition of a few drops of bichromate of potassium solution.

Upon one occasion the writer had over one hundred prints to make from some extremely thin negatives, 6½x8½. Prints in platinum from such negatives could never have been obtained except for the use of the developer here described. The prints both when wet and dry presented all the appearance of being made from full-timed negatives.

It will be found to be a very good plan to have both developers, No. 1 and No. 2, at hand, so that if the development does not proceed with sufficient vigor in No. 2, simply give the print one dip into No. 1. The action will then proceed rapidly. Stop this quickly, just as soon as the desired quality has been reached, by dipping the print quickly into the acid solution. If one is away in the country, or many miles from a source where hydrochloric acid is obtainable, citric acid can be used instead; in fact, if there should be found any difficulty in transmitting this acid in bottles, especially when things have to be packed up in a hurry, then a pound or two of powdered citric acid can be carried with the general outfit with no fear of danger from injury of the breaking of a bottle of hydrochloric acid. One ounce of powdered citric acid in forty of water will be found to be a suitable strength. Of course three such clearing baths must be used in just the same way as

with hydrochloric, although oxalic acid can be used for the same purpose, and gives convenience in transit. The citric acid is the better suited, because it is not poisonous and has less deleterious action upon the hands than any of the other acids. It is true that the use of citric acid may cost a little more than hydrochloric, but for convenience to the traveler, and upon rush or hurry calls it is the most convenient clearing acid that can be used.

BOOKS RECEIVED.

PHOTOGRAPHIC ENAMELS. From the French of RENE D'HELLIECOURT. 96 pages. Cloth, price, $1.25. TENNANT & WARD, Publishers, New York.

The need of a practical handbook to the making of photographic enamels insures a ready welcome for this little book, which is translated from the French work, now in its second edition. The methods given are the result of actual experience, and are accompanied with abundant formulæ to insure successful results. Among the processes dealt with are the powder process with a chromate salt; the powder process on porcelain; the powder process with salts of iron; the photo-ceramics paper method, in which vitrifiable carbon tissues are used for transfer to porcelain or glass; the substitution process; firing, the furnaces used; and retouching the enamels.

MAGNESIUM LIGHT PHOTOGRAPHY. The actual methods of an expert. By F. J. MORTIMER. 88 pages, with many diagrams and illustrations, showing the treatment of different subjects. Price, 50 cents. TENNANT & WARD, Publishers, New York.

With the exception of a high-priced specialist book by the late Fitz Guerin, this manual is the only text-book on flashlight work at present obtainable. Mr. Mortimer has given a good deal of attention to this specialty and his book deals with the subject in a simple and thoroughly satisfactory way. The chapters deal with apparatus; different types of lamps; flashlight compounds; cartridges and powders; smoke preventers; backgrounds; reflectors; lenses, etc. Various classes of subjects and their proper illumination are dealt with, with the arrangement for lamp, camera, etc., and the making of portraits at home, silhouettes, fireside effects; church interiors; stage effects; street groups at night; animals; machinery and large interiors. Section III takes up the development and after-treatment of negatives made by flashlight. An appendix deals with the quantities of magnesium required for various subjects. The making of flash-powders, touch papers, flash-sheets, and miscellaneous hints. The book is planned for practical work and will be acceptable to the amateur and professional.

THE PHOTOGRAPHIC PICTURE POST CARD FOR PERSONAL USE AND PROFIT. By E. J. WALL and H. SNOWDEN WARD 104 pages: listed at 50 cents. TENNANT & WARD, Publishers, New York.

The picture post-card craze has brought about with it a demand, from amateurs and professionals, for a text-book which will tell how these can be made from one's own negatives. In this manual Messrs. Wall and Ward give all the known methods for homemade post-cards by gelatino-chloride, collodio-chloride, gelatino-bromide, plain silver, silver iron and kallitype processes. Chapters are also given to the manipulation of commercial bromide and gaslight post-cards, P. O. P., platinotype, etc., and collotype cards. A separate section deals with the making of money from post-cards, choice of subjects, how to publish, how to sell and how to collect. A very satisfactory handbook with formulæ and methods for practical work. The book deals interestingly with a popular subject and will prove a general favorite.

WILL THE PHOTOGRAPHER PROFIT BY ART IN PHOTOGRAPHY, AND WHAT IS ART IN PHOTOGRAPHY?*

My subject deals with the question whether art pays the wholesale man who furnishes supplies, and whether it pays the photographer. I can only say this: that when art comes fully into photography the wholesale man is not going to lose because the same materials you are now using will continue in use and the wholesale man will discover that a great deal of interest is taken in the work itself because of the pleasure that comes with it, and because of the interest taken in the work by the public, more orders are received and he will sell more plates, paper and other things. We need not bother about that; the wholesale man is perfectly safe.

As to the photographers, I doubt whether any of us regret having gone to school and learned the alphabet and how to multiply, add, subtract and divide. This education has not been a loss and art education is not going to be a loss to us. I have been at state and national conventions off and on since probably 1894, and have groped along with you trying to get a clear view of what it all means. I have found that in all of the addresses that have been made by the men from the societies, by dealers and by paid men from the outside, the chief stress has been laid upon lighting as a means of securing art. They have frequently spoken of posing as being one of the main features of producing art, and then as the last means have resorted to the background as being essential to produce art.

Have you any more factors than lighting, posing and background? Is there anything else, can anyone tell me? Are they not the three things out of which you are to constitute art? Let us analyze these things, from the standpoint of a school teacher, the man who day after day has a body of students in composition, painting and all that kind of thing, and possibly in the habit of going down to the bottom rock of things in order that he might build up again. Could anyone here, for instance, tell what lighting really means, what it comprises, how far and in what direction it goes, and what its limits are? I think you would find this hard to put into words. I think you would be surprised to see how small and simple the whole usefulness of lighting really is and how little it has to do with art itself. It is useful, like everything else, provided you master it. Lighting is your means of making things plastic, of making concrete the sound, of producing body in an illusion, which is photography.

I have heard all kinds of lighting proposed; for instance, out West, I think it was in Milwaukee, I heard some one telling that there was one kind of lighting and no other kind was effective, and that ended it. To-day the children in the kindergarten know what the principle of light is, and the idea that there is but one kind of light is exploded. There is not a man here to-day who does not feel that one kind of light is all wrong and that there ought to be as many kinds of lighting as there are subjects. To illustrate the principle I will just draw for you.

Suppose you make a thing round—take a cylinder and you will find the head and body are nothing more than two cylinders. The head has a broken surface, is full of broken surfaces, but it is still a cylinder. Then we simply get the question of light and shade—you haven't light and dark, which is a very different thing. If you are going to introduce that in a certain way you will produce roundness. (The speaker here indicated where the light should strike the figure to produce certain results, and illustrated

*An address by Prof. Otto Walter Beck, of Pratt Institute, Brooklyn, before the Washington Convention, 1906.

the principle on which modeling is based.)

The Question of Lighting.

If anyone says there is a limit to lighting, you simply feel that it is not so. But this happens, gentlemen, that in spite of the fact that you aim at getting this strong lighting often, for instance in a three-quarters view, you don't get it there in your picture. A straight photographer is incapable of getting lighting in its perfection. Have you ever thought that abstract things also have body; for instance, the air which is all around the sitter, that too has a body and has to be represented in plastic sense. It is just as necessary to the portrait as lighting on the face.

The lighting that you must get in the future is the lighting that will be fixed by some manipulation of the plate, there is no way out of it; the photograph will not give the technique. The photgraph is against it. I think that disposes of the idea of lighting as to its usefulness.

We might take up the idea of posing. Every year some new fashion comes along. But posing is a very simple thing. When a man comes into your studio, you will pose him as naturally as you can. If you happen to have had some experience in an art school you will be helped along by the science of composition, for instance, in placing the flesh tones of the hands, arms and neck, if exposed, in such a way that there will be a special advantage. But posing is nothing more than getting people in some natural position, but it will ever be a factor in the art sense. If you go through any of the museums, no matter in what part of the world, where the arts are displayed, from the ancient times down to the present you will see that no artist ever found nature just right for a picture. Nature has her truths, but they are not picture truths, that's the difference.

The Background.

Then as regards the background. What are we going to get out of the backgrounds to help us along. I have yet to see the scenic background whether it be a fully painted one or flat burlap, no difference what the tone from white to black, where in good straight photographing the background and the face or figure do not war upon one another; they are aliens; they separate; in nine cases out of ten—I almost said in ten cases out of ten—the background protrudes in front of the face or figure. You cannot make a background directly from nature in your studio that will go back, in your present technique of photography. It lies in the technique; manipulation is the only thing that is going to relieve that trouble.

Now we have gone through the three factors that hitherto have been the bulwark of photographers as making for art. Let us look at the remedy. Let us put our finger on the sore spot and try to find out so that we can cure any disease we happen to discover.

I should say that the real fault with photography to-day is that it is unemotional. That is due to a certain quality attained by the camera, by the print of a certain evenness, deadness, a metallic quality which you often try to overcome by using rough papers and frequently you get very much relief by their use—a feeling of air begins to come into that thing, as if it might expand. Photography as it is to-day is like a river frozen over, presenting a dead cold surface, not pulsating with life. We will have to find a way of breaking loose from that. What makes the work of the painters and sculptors valuable is the emotional quality, the thing we call feeling. That is the established fact. These three branches of art, painting, drawing and sculpture, rest upon feeling. We know that all the civilized countries except our own have a minister appointed to buy the best works of art for the museums, and they are treasured. Photographs are not yet in that place, but I do not see why, ten years hence, our museums should not gather up the best work in the art of our photographers.

An art, I may say, that is unemotional is inconceivable, and we must make the

photograph vibrate with feeling. We have got to do something more than this for instance. A lady walking up Fifth avenue, seeing a photographer's window, goes up and looks at it. She sees a familiar face and says, "Yes, I know him, or her; isn't it a good likeness? What a nice new style there is about it," and after discussing these things interest has been aroused only so far as it arouses curiosity about the person—about the thing. They do not stop and say: "Oh, how beautiful that is," and stop and be silent and take it in, and they do not buy it and hoard it up for a lifetime, and it does not go to the museum. There is a very little margin you have to overstep to take photography off the congealed spot where it now is.

Another thing, photography is young and, like a child, it is growing. If a child is urged to grow faster it will usually say, "I am eating all I can and I don't seem to grow any faster than I am." Photography will have to grow. The side that is lacking is the bringing of logic and consistency into the picture.

When I look at the prints upstairs, I find that the sections do not hang together; that the figure is not supported by the lines in the photograph; that the head is not helped by its own lines; that the expression is held down, and you get only the surface of the person; there is no oneness of structure out to the frame lines and the frame lines are not considered, and that means a study of composition. If these things are true, if lighting, posing and artificial background are unable to help us in the direction of art, and if we have to put gradation and good logic into the picture, the only thing for us to do is to work on the flat to produce these things and learn how to do them. For instance in an art school, if you want to create something that is perfectly neutral, so that no emotions are expressed, you make that space evenly black as you can or make it white or any tone just so it is flat, and there is no emotion whatever produced. If, however, you want to produce emotion, the principle is a very different one; you use gradation. You find that that is emotional, it runs up to a climax, has a crescendo in it. All of you have heard Sousa's or some other famous band, and you have found that starting with pianissimo the bandmaster would gradually increase the volume until finally he had his drums, and you were filled—there had been a crescendo, and so this change from the delicate to the strong, from the quality of lassitude to the quick accent, are the two things that arouse you and control your emotions. (Here the speaker was illustrating by using charcoal on paper board.) Suppose I want to change the effect from something stormy like that to something quiet like a passive day in the morning. You notice the feeling of quiet that has come into it by contrast with the other we have had. There is a crescendo to this and a diminuendo here, and the emotions have been controlled to that extent. There is no mood of nature that you cannot express in that way.

Suppose we were to take a human figure and introduce it into a thing of that kind. If we were to put a human figure into a space like that (indicating), you imagine that to be a perfectly flat surface and background. You will find the person is neutral; that is, he is not feeling anything strongly and—Oh, he is feeling like Monday! There is nothing excitable about him. The man if pictured in a photograph is at a disadvantage; you can't do much with him. There is no mind in the man, no feeling in his heart.

Suppose we try to make a man who is phlegmatic, who has just had his dinner. I will draw here before you. We have a gradation from the point above to the point below, and from this point up to that. You will find that doing a man like that, his physical self will be brought out. He will have that pheglematic quality you will find when a man is not trying to think or do anything but just resting after a good meal. If, however, you want to draw one who is high-minded, doing things in this world, and if you want to picture him so he will be represented in that character to his people you

will take the same figure and get the accent down here—get the big amount down below, in place of putting it through the center. You will find at once the head will have a tremendous artistic advantage. It will pay you to try and do this in your studio. Get your background in some such shape that you can throw it up this way.

Now, let us try to do a man who is intimate, the kind of a man who comes up to you, shakes hands and is always friendly and you want to give his people that kind of an idea. You would draw the figure then with the shade up in there (about his head), and at once you get the centralization of interest up around the head and you get the force of the gradation there and whatever facial expression you can put into that will be doubly interesting and doubly effective.

If these things are true, if you can produce gradation to make any kind of an emotional effect, and this is the only way to do it in photography, I cannot see any other way than that we workers in the field, in some way form a school to learn how to do these things. You are all busy in your work the full year around; you possibly have a week or two or three weeks off for a little outing, and you possibly go to a convention, and possibly cannot go to an art school.

And art schools are not yet fully prepared to teach the deeper things in photography, the movement has not advanced to that; but if you really want to learn how to do those things it would be necessary for a body of men to form for several weeks—at least one or two weeks— before a convention and get to experimenting under criticism and find out how these things are done. There is not a man here who does not have some method, who cannot manipulate the plate. They haven't been exploited. I don't think any of you have gone very far in it, because your art knowledge is limited.

I should say a school would have to be formed on some such line as this in order for all to grasp so much in so short a time. With a body of say forty or fifty men, all photographing the same model—take for instance a woman in a white waist and of fair complexion; let each man photograph that model in the way he likes, using any kind of lighting he is accustomed to or that he wants to experiment with. Having done that, the next day criticism could be made of the work, the advantages pointed out in the best things and the things at fault—for instance, the holes in faces that are so frequently met with (I have some here on my list) would be eradicated. And then we would have the problem of how to develop the photograph on the plate so that an artistic *ensemble* would be created. Each man would then go off and make four or five pictures of the subject and next day there would be a criticism that would open the eyes to a great many new facts.

At once you would find the head would not be so iron-bound, so fixed, so riveted—there would be light coming into the head, beauty coming into the background and harmony to the parts, and after several weeks of work and criticism the numerous experiments made would give the richest possible kind of experience. If such a body of men should enter a convention with their work it would show a wonderful development and I venture to say you would go home enthusiastic, get out your old plates and make them new, and you would be able to get good prices for the new. I do not know any other way by which photographers could ever learn. The only other way is for the young to take it up and go on with it, but that would not be for the benefit of the trade. The young photographer would be an employee and the employer would be at the mercy of the one who manipulated the plates.

I am going to criticise the pictures here to verify the points made.

This picture represents an old man. The photographer is an artist—that is. his temperament is artistic—he has had ability, he has gone to school wherever he could get schooling and it shows refinement and quality such as would make anybody take off his hat before it. The only thing I find lacking about it is that

it does not go far enough. This background is not friendly to the head; it is a bad neighbor. A background must be a lover, it must be there to caress the head. If this man were a student in the school we would teach him to make such modifications in this background that while you would hardly notice them they would be felt to benefit his head, and you would find this man waking up, becoming more alive, the feeling that this man might last a number of years longer would come into the work. Just a little accent down here would raise that man up to dignified firmness. These things cannot be done without help—instruction of some kind; you have to be criticised.

Here is the picture of a boy fifteen or sixteen years of age and represented as having his hand upon something like a well cushioned chair. You notice it has about the same background the old man had—this is a man 59 or 60 years old, and this a boy of fifteen. Have you ever seen a boy who courted a dark room, except on Sunday when he would have to go to church or Sunday school? They are out of doors, and should be represented as having plenty of room and space about them. It is wrong to give the same background to all kinds of people. The construction of this picture is tremendously at fault; the boy is pictured here to the greatest possible advantage. I shall draw the boy as nearly as I can. (The speaker proceeded to draw on paper board in view of the convention, talking as he drew.) The lighting is thrown upon the face so as to make it very strong. This is very helpful as it brings out character and strength greatly. The next thing is to extend it down through the center. Here comes in composition, not posing, because he is posed all right. This line cuts the boy in two, it makes one-half of him on one side of the face and the other half on the other; that is, you have two geometric lines instead of the picture and the whole result is disastrous to the boy who is in the background. It is very hard to use background just right. These lines lead you to expect the real picture to come up here, which is the center of interest, and that is very bad composition. The way to do is possibly to accentuate this line of the face (indicating) and accenting the boy here, giving the figure some spring throughout and then if you want to get over there into the background you want to bring the lines down here and make the boy look young and vigorous, the way he would naturally appear, and the kind of feeling you have in the spring just now, exuberance and strength, and I think you would want to bring in something here to surround him and throw the interest absolutely up in there and hold it against that big mass, with all its lively contours. You say that cannot be done with photography, and would not be if it could. That's a mistake. The technique of photography is absolutely capable of producing those effects. In photography you can make black and white lines, and any tone between them, make a soft contour and increase it to sharpness and make every grade between and no painter has more to deal with than that except color. If that can be done, why not learn to do it. We are absolutely facing facts, this is straight photography; this is art in photography.

I am interested in this picture of an old man. It looks like Mr. Depew. The head is vigorous. The photographs I am criticising are not inferior to the work to be seen anywhere in the country.

I am afraid, ladies and gentlemen, you who are not practicing photography, are being misled by buying prints of old and modern masters. You will find that they are being reproduced by photography and have got this metallic quality, where in the original painting you get depth it takes surface quality as in that photograph. In an oil painting the oil itself is transparent and makes depth of its own. Photography has not that advantage and you have to produce the effect otherwise—by manipulating the negative. If you were to visit the Corcoran Art Gallery here and see the Rembrandt that is on show you would find the background as black as anything painted, but beneath

that is a quivering, illusive quality that the photographer could not get in straight photography.

I should say if you are not tired of seeing so many of them drawn, I could draw this so the man would look younger, stronger, more vigorous, and the lighting would become stronger and extend down. The picture as it now is represents the pose of the man. You could not improve that side of it. Whatever is wrong is the art side. (Here the speaker changed the "tone" of the background.) Notice how that straightens the man out; even in this rough sketch something has happened to him, and his whole expression is more alert. One trouble in straight photography is it makes you look too hard at a thing and the harder you look at it the less interesting it becomes. You have to use an illusion. All art is an illusion. I urge you, gentlemen, to get some light in your backgrounds because of the greater relief and cheerfulness it will put into your work.

I have two pictures here representing an old man, and as I look at them I find their detail well recorded; it is a triumph in photography. I respect good photography; I don't think a man could make a good straight photograph too good for me. Good straight photography will always be the sound basis, but it is not the end of the thing; we are going to learn more. On this I can see the pores of the skin, and each hair, and the more I look at it the nearer I want to be, and finally I want to examine it with a microscope. The photograph that is effective will be the opposite; you step back and take in the whole image, and doing that it becomes alive. This is at the bottom of the whole thing. When a person comes into your studio he will say things to you, and you will converse a little while, and finally you will notice that he is talking with his hands, his shoulders, his body and his face is full of animation, his eyes are twinkling, and everything is going on. The thing is to retain some of that. In good portraiture that is where the English artists have excelled us wonderfully. There are at least one or two fine samples in the Corcoran Gallery which you can now see.

Here is a rather complex picture. In an art school the question would be, is it a portrait, or a subject called "Reading"? The man is looking down at his book, but that doesn't make him read. That is the posing part. You must get beyond the posing; you must be telling the story yourself. Now, I am going to make him read. Isn't he reading? Look at his eyes; he is looking down there. What is it? Composition; something everybody has got to learn, and it is not so hard when you get into it. Don't you think when you go home and look at your prints you will say, What is the matter with this? Is there anything the matter; if there is, what is it, and how will I find out all about it? You will see that after all photography is up against something new and subtle, something which is in art.

THE PREVENTION OF FAULTS AND FAILURES IN BROMIDE PRINTING.

BY C. WINTHROPE SOMERVILLE.

It is a well-proved truism that the man who never made a mistake never made anything else; so that incomplete success during the first trials of bromide work should not discourage the worker.

Since inexperience is the cause of the majority of failures in all processes the following cautionary words and remedies may assist in the production of the perfect print. The beginner should know that there is a vast differ-

ence between bromide and gas-light papers, and that while many of the points mentioned will apply to gas-light paper, yet bromide paper is now being considered.

1. **Dark Room Light.**—Use a safe light and plenty of it. Do not on any account use a red light. It is impossible to judge the progress of development and intensity of the image by a red light.

Use canary fabric, or yellow glass covered with some diffusing medium.

Test your light by exposing a piece of bromide paper, partially covered, for five minutes at a distance of one foot, and developing it. If any darkening of the exposed portion occurs, cover your fabric with some pieces of tissue paper and repeat test till the light is "safe"; but do not add so many pieces of tissue that another thickness of fabric would be equally efficacious. Use as large an area of light-emitting surface as possible so as to flood the room with the light.

There are two methods of development, viz., rapid and slow; if the slow method is adopted development should be performed at not less than two feet from the light, and the print brought closer for occasional inspection.

2. **The Paper.**—There are two distinct kinds which demand slightly different treatment, and it is here that disappointment often occurs.

"Platino Matt" paper was originally produced to imitate the platinotype print, but that of later date is intended for general softness of effect. Now the nature of this paper prevents the "juicy" or luscious depth of shadow common to the carbon print from being obtained; and it is in striving after this that many workers only succeed in blocking up the shadows by forcing development. This lusciousness in shadow depth may, however, be easily obtained on the other variety of paper known as "Ordinary," which in papers of the best manufacture have an underlying substratum of gelatine. This paper gives brilliant effects equal in every way to carbon.

3. **Packing.**—Paper is sent out in either packets or rolls. If packets are used, it should be known that some firms place the sensitive surfaces face to face; others put five or eleven pieces face to back and two pieces face to face. The same is the case in small rolls of several cut sheets, and it is easily possible to expose on the wrong side of the paper if a test for the sensitive side is not made.

4. **Sensitive Side of Paper.**—This is most effectively ascertained by placing one corner between the teeth for a second or two, when the sensitive side will adhere. The warmth of the hand will make the sensitive side curl inwards.

5. **Cutting Paper.**—Cutting paper from rolls and large sheets if carelessly done will result in surface and finger markings. Gauges made from stiff cardboard the required size should be laid on the paper to coincide with the top and left-hand side of the sheet, and a cut made with a penknife along the right-hand and bottom side of the gauge while the left hand is pressed firmly on the gauge to prevent any possibility of its slipping.

6. **Keeping Paper.**—Paper will keep practically indefinitely if packets and rolls are securely wrapped in brown paper and kept on the floor of a dry room, or preferably in a box resting on the floor. Stale paper results in loss of sensitiveness, fogged edges, and general veiling of the whole surface. The staling of the paper may be due to excessive dryness, damp, or chemical fumes present in the atmosphere of the room.

7. **Curled Paper.**—Paper from large rolls is inclined to curl at the edges when pinned on the screen, with the result that during exposure light is reflected from the main surface on to the curled portions. This produces a slight reduction of the silver on development. In such cases the paper should be pressed against the screen

with a sheet of glass, or, preferably, soaked and allowed to drain, lifted on to a clean sheet of cardboard, and any air bulges smoothed out with a sponge. The paper will adhere to the card by its own suction. The card is then pinned on the screen, allowance having been previously made in the focussing for the increased thickness.

A damp atmosphere in a room will cause paper which is pinned on the enlarging screen to bulge owing to expansion. It should be treated in a similar manner, otherwise some of the print will be out of focus and distorted. In architectural work the wet paper method is very effective as the contraction of the paper on drying tends to create sharper definition in the individual lines of the image.

8. **Yellow Glass Cap.**—This should be of sufficient depth of color to prevent any possibility of the light affecting the paper during its placement on the screen. When clouds are printed by a second printing a red glass cap is often necessary owing to the fact that cloud negatives are generally much less dense than landscapes.

9. **Distance of Printing Light.**—We are convinced that half the failures in contact printing are due to printing too near the light and without using a diffusing screen. The reasons for this cannot be given here beyond mentioning the fact that the nearer the light the shorter the exposure, and therefore the less the control in modification. Thus, where a distance of one foot from the light requires an exposure of five seconds, and a deviation of one second makes all the difference in a print, the time is too short to control; but if the printing frame be removed to a distance of four feet then the exposure required would be eighty seconds, and the previous deviation of one second is now sixteen seconds, the control thus becoming sixteen times as great. Besides this there are other reasons, and among them chemical and photometrical ones, why a contact print should not be made at a less distance than three feet from the light.

10. **Vibration.**—While an exposure is being made in enlarging, any vibration of the lantern or screen will cause a double image in the print.

11. **Projected Light Disc.**—Colored edges on the circumference of the projected light disc are caused by using a lens of too short a focus. Shadows are caused by the light being out of the central axis of the condenser; they may also be caused by the lens being out of centre with the condenser. Shadows may be entirely eliminated by the use of a sheet of ground glass between condenser and light, but the intensity is considerably diminished, and exposure correspondingly prolonged.

12. **Correct Exposure.**—This is the time required to obtain visible reduction on development in the highest light (densest part of the negative it is required to print through). Ascertain this by graduated trial exposures developed with a normal developer as far as they will go. No time less than that for correct exposure should ever be given.

13. **Under-Exposure.**—This is any time short of correct exposure. It cannot be remedied, but the best results are only to be obtained by using a very dilute developer—say not stronger than 1 in 20 of normal strength—and stopping development before finality. In such a case the absence of bromide in the developer is almost imperative.

14. **Over-Exposure.**—Any time in excess of correct exposure. Slight over-exposure is the safety valve of bromide printing, since it can be easily rectified in development by using a weak solution containing an excess of the developing agent, a comparatively heavy dose of bromide, and stopping development before finality. Also by subsequent intensification. Over-exposure is recognized by a muddy flat appearance of the print.

15. **Effect of Exposure.**—The whole scale of gradation from a certain ex-

posure (correct or otherwise) may be seen in such a state that errors are easily rectified, or desired effects obtained by modification of the developer (see 12 and 13), by commencing development with a very weak solution till the high light details are visible, the whole image being in a very weak and ghostlike state.

16. Soaking Paper.—Do not soak small pieces of paper before development; it is unnecessary. Flow the developer over it as you would a plate.

With larger prints is is necessary, otherwise there is risk of not covering the paper sufficiently quickly, resulting in patchy uneven development.

White Spots on a print are caused by air bells adhering to the paper after soaking, preventing the developer from acting on those parts. To ensure their absence fill the dish with water, place one end of the print under the surface, and pull the whole through and under the water. Paper which rolls up when taken from the enlarging screen should have one end placed under the water, held down with thumb and little finger, and the rest carefully unrolled in such a manner that the water creeps evenly over the surface without making dry islands. To make quite certain, pass a tuft of cotton wool lightly over the surface from end to end when the paper is quite flat under the water.

17. Finger Markings.—Contact of the fingers with the dry (and. often with the wet) paper may prevent the developer attacking those parts owing to a thin film of grease.

18. Quantity of Developer.—Too great a volume of developer is a mistake in large work; it is unnecessary and inconvenient. But the amount depends on whether the rapid or slow method is adopted.

For small work, where a lot of prints have to be made and the correct exposure possible, by all means use a strong developer. But where development has to be stopped before finality this is not possible (see 18). Three ounces of a semi-diluted normal developer should be sufficient for a 15-inch by 12-inch print.

19. Rapid Development.—This is a veritable pitfall to beginners. Given a negative, for which "correct exposure" is suitable for all parts, then rapid development is the best simply because it is quicker, and the print may be developed to finality. But given a negative from which a print has to be stopped before finality of development (see 12 and 13) it is impossible, when a strong developer is used, to determine the point when the print is sufficiently developed. Take it from the developer and transfer it to the fixer (where it continues to develop for a short time, see 21) without its having passed the required stage, as development is too rapid.

20. Slow Development.— This is the safety factor of bromide printing. This will be understood if the following law of development be remembered:

"Providing there be a sufficiency of the developing agent the same condition will be obtained at the finality or limit of development with a weak (diluted) developer as with a strong (concentrated) solution. But at no stage before finality will the condition be identical." Slow development allows of control. Thus, in the case of over-exposure when seen, increasing the proportion of the developing agent has the effect of temporarily accentuating the density of the shadows, while the addition of bromide holds back the high lights, and when the desired stage before the finality of development has been reached the slowness of development allows of ample time for judgment and transference to the fixer (see 14).

The strength of solution for slow development should be not greater than one-tenth normal.

All developers will not allow of slow development without staining, but the above dilution is safe for at least half an hour with methol, metol-quinol, rodinal, adurol and glycin; but ortol and amidol should not be used in this way.

21. **Judgment of Density.**— This is a frequent cause of failure. If a print is viewed during development by reflected light, the reduced silver is seen deposited on or incorporated with the unreduced silver bromide beneath it. This shows the intensity of the tones to be rather less than they really are. When the fixing solution clears away this silver bromide the image at once appears of greater intensity. With excessive over-exposure this does not happen as probably the whole of the bromide of silver has been attacked by light. If, however, the print be viewed by transmitted light, the silver bromide being semi-transparent, practically the same intensity of image is seen as would be if the print was fixed. Final judgment should therefore always be performed by viewing the print by holding it between the light and the eyes.

22. **Fixing.**—When a print is saturated with developer and placed in another solution some time must elapse before the fresh solution penetrates the paper and film and finally overcomes (in chemical action) the developer. Hence development will continue for a short space. Now, if a print be placed in water first, the water takes much longer to stop development than the hypo, since the hypo at once destroys further developing action by commencing to dissolve the bromide immediately it comes in contact. Apart from this there is no chemical reason why hypo and developer should not be in contact other than the possibility of staining, and this is overcome by using an acid fixing bath.

23. **Exhausted Fixing Bath.**—This is a source of danger and should be looked to, otherwise if the print be incompletely fixed it will partially print out when exposed to daylight, resulting in what appears to be stain, but is in reality light-reduced silver. An acid fixing solution will remain clear for a very long time: it should therefore be tested with a little piece of unexposed paper, which, on being partially imemrsed, should instantly have the yellow creamy emulsion dissolved off, showing the white paper.

24. **Stains,**—These are due to the print not being kept under the fixing solution sufficiently long to allow of the hypo eliminating the developer. A print should be completely immersed and the dish rocked for at least half a minute. Use the same strength of solution as you would for plates and allow the print to remain in it not less than eight minutes.

25. **Washing.**—Perfection in the after treatment of prints and their permanancy depend on thorough washing. Placing in running water for half an hour should be sufficient, especially if a hypo eliminator has been used. A rapid and effectual method is to squirt water gently by means of a rubber tube attached to the tap on to the face and back of the print for ten minutes with thin papers, for fifteen to twenty minutes with thick papers.

26. **Blisters.**—Rinsing and washing a print with too forceful a stream of water is a fruitful cause of blisters. Also subjecting the print to solutions of widely varying temperatures. Also the use of caustic alkalies (sodium and potassium hydrates) in the developer. The blisters may be considerably diminished, and if not too large, entirely eliminated, by immersing the print in alcohol, or sponging the face with cotton wool soaked in alcohol or methylated spirit, and allowing to dry without washing. Platino matt papers are less liable to blister than the ordinary kinds. Too vigorous a chemical treatment, or prolonged immersion in a warm solution is also a cause of blisters.

Hardening a print with alum or formalin is of little or no use as a preventative measure. To an enormous extent manufacturers are responsible for the evil, and some are considerably more up-to-date than others in their efforts to overcome it, so that the worker has a large margin of safety in choice of paper.

27. **Drying.**—The best method is to lay prints (face up) on a clean towel stretched over a board reclining at an angle. There should be a space between each print to allow the surplus moisture to drain on to the towel.

28. **Mounting**—If the mount instead of the print can be pasted, then paste the mount, for since the print must be damped on both sides it may be damped on the face side last, thus preventing any possibility of abrasion.

If the mount cannot be pasted, then the damped print must be laid face down on blotting paper or a linen cloth and pasted on the back as usual.

Do not lay it face down on glass, as, if insufficiently wet, it will stick.

When dry it should be rubbed all over fairly vigorously with a plug of cotton wool soaked in alcohol to clear off all surface silver. And if finally polished vigorously with a soft cloth the silver will be slightly burnished, imparting a general brilliancy.

29. **Intensification.**—Do not use any mercury process. If only slight intensification is required, use the ferricyanide-bromide redevelopment process.

If great intensification is required, the bichromate redevelopment process is the best.

In both processes every trace of the bleaching agents must be removed before redevelopment, otherwise stains and patchiness will result.

30. **Reduction.**—Do not use the hypo and ferricyande process if you wish to preserve your high-lights.

The ferricyanide-bromide redevelopevement process is far better. But redevelopment should be carried a little farther than is required, as, when the print is put into the hypo, the dissolving of the undeveloped silver bromide makes the print rather lighter. For reduction, redevelop your print very slowly with a diluted developer as it gives so much more control.

31. **Toning.**—In sepia toning by the sulphide method be sure that the sodium sulphide is not decomposed, for if such is the case some hyposulphite is formed and the bromide of silver is partially dissolved before toning takes place. Make the sodium sulphide solution into a large volume of about 2 per cent. strength and keep it well stoppered.

32. **Toning Stains.**—When toning is effected by subjecting the print to two separate solutions it must be assured that the first is completely eliminated, otherwise stains and uneven toning will surely result.

33. **Blue Toning.**—After toning, prints should be washed till the slight blue tint in the whites is removed, but no longer as the slight alkalinity of the water tends to destroy the color.

34. **Green Tones by Vanadium.**—In all direct methods of green toning there is a difficulty in attacking the highest lights. This may be minimized by previously intensifying the print by the ferricyande-bromide method.

35. **Gas-light Paper.**—Do not take it for granted that toners for bromide paper are equally suitable for gas-light paper. This is very often not the case. Hence a very fruitful cause of failure and disappointment.

36. **White Spots** are often produced by insensitive or uncoated portions of the paper. Dust will create insensitive spots.

37. **Brown and Green Tones on Development** are produced by too much bromide in the developer.

38. **Dark Streaks** appearing on development may be caused by a tiny flaw in the lamp.

39. **Ferrous Oxalate.**—Be chary of using this developer as it is extremely difficult to completely eliminate the iron from the paper; and if toned with the sulphide process, will produce a bronzed appearance.

40. **Shadows.**—Do not forget that in all toning processes the shadows are raised from the black, thus reducing the contrast.—*The Practical and Pictorial Photographer.*

CURTIS BELL, AMATEUR AND PROFESSIONAL.

DURING the last twelve years the name of Curtis Bell has been slowly but surely forging ahead in the field of photography, until it is now inscribed over a showcase on Fifth Avenue, New York, the Mecca of all professional photographers.

The contents of the showcase are sufficient evidence that Mr. Bell is doing professional work of a very high order. The illustrations in this number of the magazine, excepting the four Niagara views, are all examples of Mr. Bell's work—of his early, middle, and later period.

Starting as an amateur some twelve years ago, Mr. Bell's work soon attracted attention by its atmospheric qualities—an example of this is seen in his "Woodland Mists" and "The Discovery," which we reproduce. Mr. Bell has been a frequent exhibitor, and has to his credit some hundred and fifty awards, including the First Gold Medal offered at the Genoa Exposition. Over one thousand prints were entered for this honor.

Having special privileges for photographing the homes of some of New York's leading citizens, Mr. Bell soon qualified as an expert interior worker, and his portfolio contains some good examples of the interiors of the stately homes of America. A photograph of the grand staircase of the Congressional Library we saw, was a notable reproduction of a difficult subject.

Meeting with success as an amateur, Mr. Bell decided to join the ranks of the professional photographer and locate on Fifth Avenue, fitting up a very fine studio with much good taste and judgment. The reception room is furnished to closely resemble the reception rooms of the wealthy—his clients are mostly drawn from the "Four Hundred"—the walls are hung with examples of the paintings of our most noted artists in oils and water colors, not a single photographic print being hung in this room.

A feature of Mr. Bell's work is the absence of posing; his sitters pose themselves and are never subjected to any handling. If this example was more widely followed we think the number of free and natural poses would be very much increased.

Mr. Bell is a great believer in the Cramer Isochromatic plate, using it exclusively for his portraiture and obtaining with it very fine results.

As organizer and first president of the First American Salon, Mr. Bell has rendered a great service to the cause of pictorial photography in this country. Besides being the president of the American Federation of Photographic Societies, an organization of the leading photographic clubs and societies of this country and Canada, Mr. Bell is the secretary of the Professional Photographers' Society of New York, showing as keen an interest in the professional side of photography as in the pictorial side, for which he has labored so long and with such gratifying results.

As a professional worker Mr. Bell has modified some of the views he strenuously held as a pictorial worker and strongly insists that the first essential in portraiture is good straight photography.

Perhaps the most notable thing about the personality of Mr. Bell is his peculiar tact, his method of approaching and handling people—we mean figuratively, not literally. He has a quiet, dignified way of insisting on his point and seldom fails to carry it, at the same time making very few enemies.

To quickly clear hypo from a large print, lay it face down on a sheet of glass and go over the back with a roller squeegee. Transfer to dish of clean water, and after five minutes' soaking squeegee again. Repeat half-a-dozen times. This will insure a complete removal of any traces of hypo.

NEWS OF THE CONVENTIONS.

NEBRASKA PHOTOGRAPHERS' ASSOCIATION.

Omaha, Neb., May 15-18.

The State Photographers' Association will meet in Lincoln next year. The annual session and exhibit of the picture men closed in Omaha. The attendance was large and the pictures exhibited were excellent. Alva C. Townsend, of Lincoln; Edgerton Craig, of Fremont, and G. W. Godding, of Fairbury, captured the leading prizes.

The prize awards were made as follows:

Grand Portrait Class—Gold medal, Charles Townsend, Des Moines.

Standard Class—Twelve cabinets, gold and silver medals: First, Alva C. Townsend, Lincoln; second, G. W. Godding, of Fairbury.

Class A—Twelve pictures: First, gold medal, G. W. Godding, Fairbury; second, silver medal, H. A. Martin, Wilber.

Genre Class—First, gold medal, Edgerton & Craig, Fremont; second, silver medal, D. W. Wright, Nelson.

Children's Class—First, Alva C. Townsend, Lincoln; second, Edgerton & Craig, Fremont; third, G. W. Godding, Fairbury.

Class C—Twelve pictures: First, gold medal, D. W. Wright; second, W. M. Ball, Beaver City.

Sweepstakes, Silver Loving Cup—Winner, Alva C. Townsend, Lincoln.

Class B—Twelve pictures: First, gold medal, F. W. Ebenspacher, Holdrege; second, silver medal, William Ralston, Geneva.

The officers were elected as follows:

John F. Wilson, Pawnee City, president; T. M. Mackey, Hastings, first vice-president; W. S. Soper, Plattsmouth, second vice-president; W. P. Fritz, Fremont, treasurer; Alfred T. Anderson, Kearney, secretary; T. M. Mackey, J. A. Pattison and J. C. Kantz, executive committee.

THE PHOTOGRAPHERS' ASSOCIATION OF ILLINOIS.

Meeting held May 22, 23 and 24, at Springfield, Ill. The list of prize winners is as follows:

Grand Portrait—Towles Studio, Washington, D. C.

Class A, 1st—Melvin Sykes, Chicago.

Class A, 2d—C. J. Erickson, Dixon.

Class B, 1st—C. J. Erickson, Dixon.

Class B, 2d—C. E. Wilkins, Freeport.

Class C, 1st—H. B. Medlar, Woodstock, Ill.

Class C, 2d—A. A. Heath, Pontiac.

Smith Trophy—H. Wiebner, Quincy.

Cabinet, 1st—H. C. Lines, Evanston.

Cabinet, 2d—C. J. Erickson, Dixon, Ill.

Miniature—Chas. Omhart, Girard, Ill.

Special Class—E. C. Pratt, Aurora, Ill.

The Smith Trophy becomes the property of Mr. H. Wiebner, inasmuch as this is the third consecutive time he has won the cup.

At the close of the convention Thursday, May 24, the newly elected officers of the P. A. of I., consisting of president, S. W. Stout, Paxton, Ill.; first vice-president, W. M. Henshel, Chicago; second vice-president, E. E. Jay, Paris, Ill.; secretary, H. C. Lines, Evanston, Ill., and treasurer, R. H. Mann, Virginia, Ill., met in special session to map out plans for the success of the Chicago convention. Each officer is a committee of one to keep the ball rolling from now on and make the 1907 convention a winner. We ask the hearty support of every photographer in the State, and want you to help spread the news so that the next convention will be the most instructive and the most enthusiastic ever held in Illinois.

The making of portraits is only one of the thousand and one uses that photography can be put to. The popularity of the picture post card is rapidly increasing. Many negatives can be turned into money makers. An announcement on the inside back cover of this magazine may mean money to you.

The Professional Photographers Society of N.Y.

METROPOLITAN SECTION.

At the meeting of May 29, Mr. E. B. Core was elected chairman; Barron Fredericks, secretary; Mr. Bradley replacing Mr. Byron, retired, on the board. All the members of this section have pledged themselves to exhibit one picture at the 1907 State meeting. It is expected that all the members of each section will give a similar pledge, thus insuring a representative display.

WESTERN SECTION.

Rochester, N. Y.

New officers for the Rochester Local Section were elected May 23, as follows: Irving Saunders, chairman; J. E. Mock, vice-chairman; E. E. Calhoun, secretary; W. M. Furlong, treasurer.

July 1st brought to a close Mr. Dudley Hoyt's very able administration of the affairs of the Society and marked the beginning of President MacDonald's second term.

Mr. Hoyt's management of affairs was characterized by originality and enthusiasm culminating in a convention remarkable for its novelties and large attendance.

Mr. MacDonald will have his work cut out to maintain the pace set by his predecessor. We have very little fear, however, that Mr. MacDonald's second term will be lacking in enthusiasm, originality or usefulness. His slogan for the year is "Equality."

FREE EMPLOYMENT BUREAU.

On July 1st, the work of the Bureau will be taken up again, but its services will be *free* to any employees wanting positions, and to members of the Society who may want such lists as are on file.

An arrangement has been made whereby the columns of this magazine will be used each month to bring those seeking employment, and members of the Society who want employees, together.

Employees in any locality may register *without charge of any kind.*

Many inquiries come from the West and South, and employees can frequently be placed near their present homes.

In your application be sure to fill out the "locality" blank.

EMPLOYEES' APPLICATION TO THE FREE EMPLOYMENT

Bureau of the Professional Photographers Society

OF NEW YORK

Fill out the blanks and send to Pirie MacDonald, Pres., 141 Broadway, New York.

*Name*_____ *Permanent Address*_____

*Age*_____ *Married or Single*_____ *Salary per week*_____

*Desires position as*_____

*What locality do you prefer working in?*_____

*Employed last by*_____ *from*_____ *to*_____

*Other experience and references*_____

It is hereby agreed that I will at once notify this Bureau on acceptance of a position, whether obtained through the Bureau or not.

NEWS AND NOTES

The Lastingness of Silver Prints.—Dr. George Hauberrisser treats of this subject in the March issue of the *Wiener Mitteilungen* (p. 78), and his conclusions are as follows: (1) "Almost all prints which have been toned and fixed in separate baths will last for years without any falling off." It may, however, be remarked that is scarcely a high ideal of permanency, although in advance of the fugitiveness of such prints as fade perceptibly during the few weeks that an exhibition may be open. (2) "Prints on most of the commercial gelatine papers, toned and fixed in a combined bath, lasted satisfactorily." (3) "Collodio-chloride prints toned and fixed in the combined bath were notably more fugitive than those mentioned under heading No. 2." (4) "Prints on gelatine paper merely fixed, lasted satisfactorily." Evidently Dr. Hauberrisser's ideal of lastingness is not a very exalted one, and his remarks must be read as a whole and in reference to his heading No. 1. Speaking generally, silver prints cannot be considered permanent in the best sense of the word, although a few silver prints fifty years old are in good condition. The favorable conditions judging from these old prints and the records relating to them, are separate toning and fixing, the use of abundance of fresh "hypo" bath to ensure complete fixation. Finally, thorough washing. Notwithstanding the fact of a few silver prints of fifty years ago being still good, those who wish to produce lasting prints should adopt platinotype or carbon, this latter being available either as ordinary carbon, ozotype, or gum-bichromate with carbon as the chief constituent of the pigment. Very few developed silver prints issued with photographic annuals of ten years ago or more, are now in passable condition.

Cold Varnishes.—Professor Valenta, of Vienna, who has paid considerable attention to the manufacture of negative varnishes now recommends the use of carbon tetrachloride. This liquid, which has a pleasant smell, mixes freely with alcohol and ether, but not with water. It is used for medical and surgical purposes, Merck's price for the pure being one shilling per pound, which does not measure 16 fluid ounces, as the specific gravity is high, 1-6. The formulæ suggested by Valenta are:

Gum dammar	25-50 gr.
Carbon tetrachloride	1 oz.

or

Mastic	20 grs.
Carbon tetrachloride	1 oz.

In using the mastic the mixture must be warmed up to 176 deg. Fahr. This new solvent boils at 137 deg. Fahr., and is very frequently used in place of the dangerous benzole; but still, those who wish to try these formulæ should be careful not to heat it with a naked light, but by immersing the bottle in warm water, for all these volatile carbon compounds give off an explosion vapor when mixed with air.

A Varnish for Platinotypes.—It occasionally happens that the producer of a platinotype desires a lustrous surface like that of a print on albumenized paper or on a collodio-chloride printing-out paper, and the *Photographische Rundschau* (No. 7, of 1906, p. 82) mentions Valenta's varnish as being suitable for application to platinotypes, as it neither soils the whites nor renders the paper transparent. The varnish is prepared by the digesting 100 grammes of crushed sandaric in a mixture of 400 c.c. of benzole, 400 c.c. of acetone, and 200 c.c. absolute alcohol. A semi-brilliant surface can be obtained by varnishing the face of the print and immediately removing all excess of varnish by pressure between sheets of blotting paper.

WHEN citric or other acids are included in a formula containing sulphite, the solution should be cool before adding, or sulphurous acid will be evolved, and the developer may stain.

EDITOR'S TABLE.

THE new catalogue just issued by G. Gennert, of 24 East 13th St., New York, is a handsome volume of some two hundred pages. All the new specialties for the professional photographer are fully described and illustrated.

It is a catalogue that should be on hand in every studio. A postal card will secure a copy.

WE are glad to hear that the firm of Geo. Murphy, Inc., New York, have secured the agency for the well known Ross Lenses—for many years one of the most popular series of lenses sold in this country.

A new catalogue is being gotten out and those of our readers who are interested in the lens question will do well to put in their request for a copy.

THE YUNIT CHEMICAL Co., of Rochester, N. Y., have issued some helpful instructions on the flat drying of development papers which they will be glad to mail to anyone asking for it. Their new catalogue of photographic specialties is also well worth the asking for.

THE COBWEB is the name of an attractive new mount just issuel by Trier and Bergfield, of New York. The delicately woven pattern is embossed all over the card and is a novel and pleasing design. It comes in various shades and sizes and will doubtless become a favorite.

The Cobweb and many other novelties will be shown at the Convention, booth number eight. Make a note of it.

THE FOLMER AND SCHWING Co., of Rochester, N. Y., manufacturers of the Graflex camera, wish to secure, for advertising purposes some first class negatives made with their cameras. They offer a leather-covered film-pack adapter in exchange for negatives selected. Readers who have a Graflex might find it worth their while to submit prints.

WHILE the price of platinum paper is steadily advancing we notice that Platinum Manufacturing Co., Denver, Col., have not increased the prices of their well-known papers.

Photographers who have had trouble and disappointment with sepia platinum would do well to try the sepia paper manufactured by this firm. It produces the finest sepia prints we have yet seen. The dull yellow tone so common to the ordinary sepia print is completely eliminated and the tone produced is the regular sepia brown.

The special offer announced in our advertising columns is well worth taking up. We know that the paper will more than please you.

PROFESSIONAL PHOTOGRAPHERS IN SAN FRANCISCO. It is evident that members of the craft in California have hard and difficult times ahead of them for some time to come. In a letter just received from Mr. O. H. Boye. the chairman of the San Francisco Photographers Relief Committee, he says: "As yet I have not secured a location on account of the extreme difficulty of securing anything desirable. There is, however, but little necessity to hurry, as the portrait business will be very quiet for some time to come. None of the studios burned out have opened so far. Have been busily engaged working on the relief matters for the past month, and the conditions here are anything but cheerful. The little money we have received thus far is but a drop in the bucket. We are doing our best to get the men and the girls placed in positions outside the city, but the whole State has felt the effects of this blow and the business consequently, and particularly in our line, is at a standstill."

Mr. Boye's address is 2050 Fell Street, San Francisco.

THE Second American Salon has just closed a very successful week's exhibition at the Brooklyn Institute of Arts and Sciences. We have not heard the official figures of the number who attended, but the same exhibit was seen by over fifty thousand people in Chicago a short time ago.

We are very glad to hear that the Executive of the P. A. of A. have secured the exhibit for the Niagara Falls Convention. Photographers who do not have time to visit the cities where the Salon exhibits its pictures will now have an opportunity to enjoy them at their leisure while attending the Convention—they will repay much close study.

THE Royal Photographic Society of Great Britain will hold its fifty-first annual exhibition in London, Sept. 20th to Oct. 27th at the New Gallery.

The exhibition is divided into five sections, comprising Pictorial Photography, Scientific and Technical Photography, Invitation Collection of Technical Photographs and Apparatus, Professional Photography, anl Photographic Apparatus.

We feel sure that many of our readers will be desirous of entering photographs, especially in the professional photography section. We have a supply of prospectuses and will be glad to mail copies to those who wish further information.

PHOTOGRAPHERS attending the Niagara Falls Convention, and who expect to make their headquarters in Buffalo, will find in the Lenox Hotel a first class hotel on the European plan, offering the best accommodation at reasonable rates.

CHARLES WESLEY HEARN

President, Photographers' Association of America

By Henry Havelock Pierce, Providence, R. I.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. AUGUST, 1906. No. 596

HOW TO GET THE MOST OUT OF THE CONVENTION.

THIS number of the magazine will reach many of our readers who are just about to start for the National Convention. Naturally the question will be, How much is the convention going to benefit me? We credit every live and wide-awake photographer with the knowledge that it is good to go to conventions—we have been attending conventions since the first one held in New York in 1865, and are looking forward with greater pleasure than ever to the 1906 meeting.

Photographers who go to conventions can be divided into two classes: those who go simply for a good time, and to these this article will have no message to carry—they are sure of a good time.

The other class is made up of the men who are anxious to improve their work, who wish to see the craft advance and take a higher position in the social and business world, and who are glad to meet their fellow-workers and exchange ideas, talk over each others' pictures; men who are seeking to get help and information that will be a decided advantage to them in their business.

Never was a convention laid out to give better returns to those who attended than the Niagara Falls Convention. President Hearn has laid all his plans for this convention to go down in history as the business convention, and the photographer who does not secure real solid help along business lines will have only himself to blame.

To get the most out of the convention the photographer should meet as many of the best men as possible—they will be glad to meet you and talk with you. A convention means a meeting for discussion, and this does not imply that all the discussion must take place on the speaker's platform. Get the other man's views on the questions that are to be discussed and do not be afraid of stating your own.

Secondly, make a point of seeing all the pictures—a notable collection has been gathered together for your pleasure and instruction. After you have seen them once go over them again, and if possible have a friend who can analyze pictures look them over with you. Make notes concerning the more important pictures which you may find useful for after study when the pictures are reproduced in this or that magazine.

Thirdly, attend each business session; this is important. Special speakers, experts in their particular line, have been engaged to speak on business topics. These talks are to be the main feature of

the convention and will be the greatest source of profit. Use a note-book freely, to make notes of what you are particularly interested in, and look for the details in the full report which will appear in the September number of this magazine.

This program leaves an hour and a half in the morning and some of the afternoon for enjoying the social side and seeing the trade exhibits—by no means the least important feature of the convention. To the photographer from the smaller cities the dealers' and manufacturers' exhibit offers a splendid chance to review the staples and novelties in supplies and accessories essential to his everyday work.

The officers of the Association have worked hard to make the convention of 1906 profitable to all who attend; its success is already assured. To those of our readers who are going we wish a pleasant holiday. Those who have not decided had better make up their minds to close the studio and get over to Niagara. Looked at from any point of view it is the most profitable investment you can make and you will return to your studios abundantly repaid for whatever it has cost you.

PRINTING UPON SILK WITH THE SALTS OF SILVER AND IRON.

BY A. J. JARMAN.

THE making of prints upon silk or linen and upon several kinds of canvas usually involves the previous preparation of some salting compound and after sensitizing with a solution of nitrate of silver. The sensitizing of fabrics with platinum is an exception.

The process about to be described differs in so far that the material to be sensitized requires no previous salting or the employment of gelatine, gum or starch; the preparation is ready for use just as soon as it has cooled down. The application to silk can be made with a good camel's-hair brush or a piece of canton flannel tied over a two-inch-wide strip of glass, with the fluffy side outwards, or, if neither of these are at hand, a tuft of absorbent cotton can be used for the even distribution of the sensitizing material. One important condition is that, when the sensitizing of the silk has taken place, the drying should be hastened; rapid drying will cause the image to become more clear and brilliant. The sensitizing mixture is prepared as follows. The mixing must be made in a wide-mouthed, amber-colored glass bottle away from actinic light.

No. 1.

Ammonio-citrate of iron (Green)	1 ounce
Distilled water	8 ounces

No. 2.

Citric acid (crystals)	1 ounce
Hot distilled water	4 ounces

No. 3.

Nitrate of silver	1 ounce
Hot distilled water	4 ounces

Add No. 2 to No. 1, shake well, then add No. 3 and shake the bottle vigorously. As soon as the mixture is cold it will be ready for use.

To sensitize the silk, lay it down upon a clean sheet of celluloid or a clean sheet of glass and take care that no metal comes into contact with the liquid; then brush the surface of the silk over carefully with a camel's-hair brush set in india rubber, or the canton flannel, as described. As soon as the surface is evenly coated, clip the top corners with a shellac varnished wooden photographic clip and suspend in a dry, warm room away from white light until quite dry. A number of pieces may be sensitized and, when dry, placed in a printing frame with a sheet of clean glass and kept under pressure until required for use.

Printing.—Place the negative in an ordinary printing frame. If the negative is a film, simply place a piece of clean glass in the recess of the frame, and place the film upon this. If it is desired to vignette the portrait, the arrangement must be made up and tested upon a piece of P. O. P. beforehand; in any case lay the prepared face of the silk down upon the negative, and expose in a good light until the image appears well in a good brown color.

As soon as the printing is complete the pieces must be well washed in clean cold water half a dozen times, or more, to extract all traces of the sensitizer. It may then be fixed in a weak solution of hyposulphite of soda, measuring 18 on the hydrometer. Fixing is usually complete in about 10 minutes. The silk must then be well washed in cold water half a dozen times, then in hot water; then rinsed well, dried and ironed out with an ordinary flatiron; if ironed upon both sides the image will be found to come up well, taking care to iron the face upon which the print has been made last. The print can be washed several times in warm water previous to ironing without fear of injury.

Silk of various colors can be used and arranged for framing, or made into pin cushions, or bound with a suitable silk cord, and suspended upon the wall, or made into cushions. Silk stool tops can also be made in this way, and form not only handsome presents and souvenirs, but produce good articles for sale. Any photographer could increase his income by undertaking such work as this for many of his customers, or without receiving an order in the first instance, produce a number of such prints on speculation. In eight cases out of ten these prints would be purchased, when other orders would be sure to follow. Once recommended by these customers to their friends, other orders would be sure to follow. It would prove a good and novel means of advertising a business and bringing new customers for other photographic work. All such novelties are worth the attention of photographers because they advertise their business and bring the name of the photographer before a class of people that probably never heard his name before, or had hitherto seen the class of work that such a house produces. Novelties of this kind will oftentimes attract and bring to the notice of a considerable number of the public the kind of work they have been looking for, when the introduction of a trade card used by everyone would not possess any such attraction. From this standpoint alone this class of work will prove to be a good means of advertising.

It must be mentioned here that there are two kinds of ammonio-citrate of iron, the brown and the green. If the brown salt is used and the keeping qualities of the material are affected, the green variety possesses better keeping qualities.

The use of ammonio-citrate of iron as a photographic compound was first discovered by Sir John Herschel in 1845, and there have been very many photographic preparations made with it, particularly the blue-print paper which has become a daily article of trade.

The production of photographic prints in various forms has also been made with the compounds of nitrate of silver and the ammonio-citrate and ammonio-tartarate of iron. In all these preparations the resultant image is of a rich sepia or brown.

Although silk only has been mentioned in this article, linen can also be used. If linen is used the article or piece of fabric should be well washed with soap and water after the fixing and washing operations, previous to ironing. If the silk is submitted to the same operation no harm will accrue; the main point to be attended to in the use of the salts of silver and iron is to be sure that the fixing operation and thorough washing are carried out as perfectly as possible. If this is attended to there need be no fear of permanency in any of the prints so made.

Good bromide prints from very dense and hard negatives can be obtained by short exposure to daylight.

PECULIARITIES OF DEVELOPMENT PAPERS.

BY E. A. TURNER.

(Continued from page 272)

Lack of Contrast.

When development paper prints are flat and lacking in brilliancy, the fault can usually be ascribed to the selection of the wrong grade of paper for the negative. If a negative is soft, thin, or flat, a contrasty grade of paper should be chosen to secure necessary brilliancy. If the print is still lacking in contrast, the negative may be intensified with advantage. As a general thing if a negative is too flat to produce a good print on developing paper it will be worthless for any other printing process and if not worth while to intensify it, would be best thrown away.

Lack of contrast can also, however, be caused by overexposure. The prints that flash up quickly in development, as just mentioned under "Greenish and Brownish Tones" will always be flat and lacking in brilliancy. The shadows especially are likely to be of the flat, "smoky" variety.

It is sometimes an advantage, when the negative is slightly too soft for the grade of paper used, to employ an Amidol developer which will serve to slightly intensify the contrasts.

Too Much Contrast

Is nearly always caused by the negative being too harsh for the grade of paper used, or by the selection of the wrong grade of paper for the quality of negative. The remedy is, of course, to secure a softer-working paper. A harsh negative may be improved by reduction with Ammonium Persulphate, which attacks the high-lights of the negative, while leaving shadow-detail unchanged. Another way is to mask the shadow portions or thin portions of the negative while printing, and this method is quite extensively practiced by expert workers in developing papers. Some of the results secured in this way, from harsh contrasty negatives, are very beautiful.

Mechanical Difficulties.—The previous discussion has treated entirely of the pictorial or photographic quality of the print. We now come to consider some mechanical peculiarities which occasionally cause trouble. Spots, blisters, curling, and sticking to blotters are some of these, and they are not only met with in developing papers, but also with nearly all other photographic papers of whatever process.

In the first place, as to spots. The most common are white spots, round or elliptical in shape, with sharply defined edges. They may be either pure white, or the space of which the spot consists may be simply lighter than the rest of the picture. These are caused by not properly flowing the developer over the dry print, so that a bubble of air is imprisoned on the surface of the sheet and prevents the developer from acting on that portion. Sometimes the bubble is removed when development is partially completed and then the spot is partially developed up before the print is rinsed and fixed. This causes the spot which is not white, but only weaker than the body of the print. Sometimes we run across a combination of these two kinds of spots. Suppose a bubble of air remains on the surface of the print for part of the development time and is then only partly dislodged. A portion of the spot will remain clear white and another portion will be partially developed.

White spots and weak spots are always caused by imperfect flowing of the sheet with the developer. They are easy to avoid. It is only necessary to immerse each sheet in water until limp when the developer will take evenly to the entire surface, but usually it is more convenient

to avoid them by greater care in immersing the print. For a print of ordinary size and with plenty of developer in the tray, simply slide the print face up under the solution. If there is not an abundance of developer, tip the tray so that all the solution flows to one side, slip the edge of the print under the liquid, and then drop the print into the tray, at the same time inclining the tray in the other direction so that a large "wave" of developer moves directly across the entire surface of the print. If a large print is to be developed with a little developer, proceed as follows: Pour all the developer from the tray into a measuring glass. Lay the exposed sheet, face up, in the bottom of the tray and pour the developer quickly over the sheet with a sort of circular sweeping motion so that it will first strike the center of the sheet and then flow to the corners. It must be done quickly, for if the developer adhering to the tray has time to soak through the back of the sheet it will cause spots. As soon as the developer is completely over the print, go over the surface with a pledget of absorbent cotton, soaked in developer, to make absolutely sure that the developer acts evenly on all portions.

There is a great difference in the ease with which spots are formed on different developing papers. A good paper should practically never cause any trouble if the most ordinary care is taken in flowing the solution over the sheet.

Black spots are nearly always found to be caused by holes in the negative, but sometimes, when making large numbers of prints and when a large number are exposed before any are developed, a little developer may be splashed on the surface of some of the sheets. The minute drop will develop the image up where it touches, and the result is a dark spot, usually a jet black one. The remedy is self-evident.

Blisters, too, are practically never met with when a good paper and proper solutions are employed. When they do occur, they are caused by a physical action known as osmose, causing the liquid to penetrate beneath the sensitive coating and raising it from the surface of the sheet. Among the conditions that favor the formation of blisters are: Too strong hypo for fixing. Too great acidity of the fixing bath. Too great difference in temperature between the various solutions employed. When blisters do occur, they may nearly always be avoided by proper attention to these three points. It is not necessary to use a very strong solution of hypo for fixing developing papers. Two ounces to the pint is quite a sufficient strength, though three or four ounces are usually employed. The most common cause is a cold hypo solution made by freshly dissolving the hypo in water of ordinary temperature. Everyone knows the intense chilling effect produced by ordinary hypo in dissolving, but few photographers think of counteracting it by using lukewarm water for preparing the fixing solution, or by preparing it some time in advance so it will have time to come to room temperature before being used.

Besides ordinary blisters, which are usually round, there is another peculiar form of blister which makes its appearance when the paper is handled very roughlv so as to crinkle it. At the place in the sheet where the point of the crinkle comes, the surface will be roughened and will develop up somewhat dark and of comet shape, even though the crinkle comes on a portion of the print that receives no exposure to light. Careful handling of the paper and prints to avoid crinkling puts an end to this difficulty.

In the drying of developing paper prints it is often desired to have the prints perfectly flat when dry, and for this purpose it is customary to allow the damp prints to dry out either on cheese cloth stretchers, face down, or between blotters. The face of the print being in contact with the cheese cloth or blotters will surely stick if there is any sticking tendency, and in order to prevent this an acid fixing and hardening bath is employed and the print left in the bath for fifteen minutes to insure perfect hardening. The time of fixing, the fixing bath,

and the paper must be so related that the hardened prints will not have the slightest sticking tendency after the usual hour's washing. In working out the Yunit Acid Hardener to work with Yunox paper I have also found it best to limit the work of one pint of the fixing bath to one-half gross of 4x5 or cabinet prints. This insures perfect hardening and the prints come from the blotters perfectly flat. The hardening power of the fixing bath is exhausted long before the fixing power diminishes appreciably, and, if desired, the bath could be given a new lease of life by the addition of another acid hardener powder. However, as hypo is so inexpensive, I have always thought it the wisest course to replenish the bath.

Although this may seem rather a long list of "difficulties" it will be readily seen that nearly all of them will be entirely unknown if proper paper and solutions are employed, and the others disappear likewise when ordinary photographic care is used in the manipulation. The difficulties in the use of developing papers are, I think, far less than those of any other photographic process giving anywhere near equal results.

THE WORKING UP OF PLATINOTYPES.

BY M. P. BELL.

In these days, when so much of the professional photographer's work is printed in platinotype, it is essential to know how to finish portraits made by this process, for there is no denying the fact that they need to be very carefully worked up if they are to present the finished appearance possessed by a good silver print from a well-retouched negative. Mere spotting is certainly insufficient. There is a roughness in the texture of the image on the platinotype paper that needs pulling together. Careful handling is necessitated by the moisture-absorbing quality of the paper. One must know, too, just how much color to put into one's brush for the effect desired, as a false touch of color, once put on, cannot well be got off again. When once the requisite lightness and firmness of touch has been attained, however, platinotype paper offers a delightful medium for brush work, and a well-finished platinotype print is most pleasing to the eye.

The beginner should take up a few waste prints for his early practice. A few black specks may be noticed here and there on the print. These must be lifted out bodily with a knife. A small scalpel is the best knife for this purpose, with its rounded blade and pointed end. Practice in its use will bring skill, and the specks can be easily removed without a mark on the print. Unless they are taken out, they will entirely spoil the effect in the portrait.

When a too heavy touch of color has been put on, it may be reduced in intensity by quickly applying a brush that has been washed out in clean water. This must be done with scrupulous care, or the surface of the paper, being soft, will rub up, which will be fatal to the print, as it is almost impossible to get it smooth and even again.

The roughness of the paper also necessitates care to see that the color is so laid on that it appears right whichever way the print is held to the light. It will, of course, look best when the print is viewed in the same light-direction in which the work was done, but the finisher should turn the print round as he works, and view his work from both sides—*i. e.*, lighted from left and right—as the work proceeds.

We will begin with an ordinary vignette photograph that has just come from the mounting-room; but, first of all, let it be *dry*. Have your colors ready: lampblack and sepia, water, a No. 2 sable

brush for the eyes and fine parts of the face, and one or two larger brushes for the broader effects of dress and background. Have also two or three compartments in your palette—a china one—for color of various thicknesses, or two or three little saucers.

Look at the tone of your print; if it is a black tone, the lampblack by itself will probably match it; but if it is of a warmer tone, slightly inclining to brown, it will be necessary to mix with the black a little sepia. See that the color, when mixed, is exactly the tone of the print; I have seen photographs that have been finished with a color that did not match, and the effect was execrable.

I have always found it well to begin with the eyes, after doing the usual spotting, for spots distract one's attention; the eyes speak out the mind and character of the person plainly, but, because they are so important, they have to be done with the greatest care. Do not try to alter them unless you understand the principles of drawing. Observe where the pupil comes. The pupil and shadows of an eye often come out too faint in a platinotype, and need strengthening; but it must be done lovingly, not to put a black patch of color in the middle and a black line round with a strong black line for eyelashes, as is so often done in cheap work, but to put the color in with care and judgment, so as to bring out the beauty of the eye and not make it look like a staring doll's eye. The eyelashes may also be strengthened, but also with care; the eyebrows and any inequalities of lighting can be blended. This is where the *pulling together* comes in: a strong light here, which catches the eye too much and must be toned down, or a little shading in of the neck there, bringing all into harmony.

The hair, also, often needs attention. In the case of ladies, perhaps the fringe has got an awkward break in it which needs to be filled up, and some shadows may require to be strengthened, or highlights toned down. Especially is it necessary to touch up the hair in cases where it is turning gray or is quite white. Gray hair always photographs whiter than it is, and people are often sensitive about their hair getting gray, so this must always receive special attention. It must be darkened in all the shadows, and carefully shaded in all the high-lights. I have never known a case yet where this was not necessary.

Having finished the face, you must now take the dress. In white dresses a good deal will be found necessary to do: shadows to be strengthened and other shadows, perhaps, to put in where detail is wanting. A great deal can be done in this way to improve a photograph and make a pleasing picture, especially in evening dresses, where filmly lace or chiffon seem to compose the bodice. The neck, of course, you have already done.

Now we come to the background, and this is a very important part of the picture. There are two ways in which a background can be put in. One is: have some black chalk and white chalk scraped to a fine powder, also a little sepia chalk to tone the mixture to the color of the picture, and with a pad of cotton-wool rub the color into the background, with a circular motion until the desired tint is obtained. Care must be taken to have no grit in the powder. Now, with a piece of pointed india-rubber, trim off the edges either with a suggestion of leaves or a cloudy effect. There is room for much fancy in this method; it is a quick and ready way of putting in background and is very effective. The amount of background must, of course, be regulated by the kind of picture it is and how much is required to throw up the head and shoulders sufficiently in relief.

The softness of gelatine prints is often a source of trouble to the worker. They can be made waterproof and as "hard as a brick" by immersing, after toning and fixing, and a thorough washing in the following solution:—Powdered alum, 2½ ounces; tannic acid, 1½ drams; water, 20 ounces. Leave in this bath for ten minutes, which can be used over and over again till exhausted.—*The Photographic News.*

THE ACID FIXING BATH.

BY C. H. HEWITT.

WHEN using a pyro developer there is always a tendency to yellowness of the film in the finished negative. Theoretically this is minimized or avoided altogether by the use of a considerable quantity of sodium sulphite added to the No. 2 or soda solution, in some cases as much as 1½ oz. of the sulphite being added to 1 oz. of the carbonate in 10 oz. of water. A very usual proportion is equal parts of sulphite and carbonate. This sulphite is not intended as a preservative of the pyro, which is, of course, made up with a preservative in the No. 1 solution, but is mixed with the accelerator, so that the more accelerator the more stain preventative is added. Notwithstanding this, yellow stain does occur more or less on occasion. Fixation in the acid fixing bath

Prevents This Yellow Stain

and the resulting negative is clean and quicker printing. A further advantage is that the acid condition of the hypo bath at once neutralizes the alkalinity of the developer, and so at once stops all further development action. This enables the dark-room light to be turned on, or the door to be opened as soon as the plate has been in the hypo a moment or two. Of course a careful worker would not even then expose the unfixed plate to strong daylight or artificial light either, particularly if orthochromatic plates were in use, but if the fixing tank or dish is in one of the less illuminated parts of the room, there need be no fear of fogging when using the acid bath.

Nowadays, so great are the improvements in dry plate making, one rarely comes across frilling, blistering, or melting of the film, in England at all events, but when developing cut flat films or roll films it is necessary to actually hold the film between the finger and thumb, and the heat of the hand is very liable to produce melting of the gelatine in hot weather. The danger occurs principally after development is over, and it will be found that the

Acid Bath Hardens the Film,

not only enabling it to be more safely handled but also more comfortably. A length of roll film is a very slimy affair, which if handled cautiously and gently is apt to slip out of the fingers, and if held more firmly is likely to be injured. The hardening effect of the acid bath removes this slimy slipperiness. In hot weather some roll film emulsions get so soft that when washing several lengths of spool in a large trough or tank, the edges of the celluloid cut into the softened gelatine. To prevent this the addition of formalin to the developer is sometimes recommended, or a preliminary bath of formalin before developing. Of course a formalin bath may be used after fixation, but the separate hardening bath involves an extra operation, and, consequently, more time. The acid bath needs to be

Carefully and Properly Compounded.

The mere addition of any acid will, of course, lead to disaster. The simplest method is as follows:

A.

Hypo (crystals)	1	lb.
Water	2½	pts.

B.

Bisulphite of soda	¼	lb.
Water	20	ozs.

Take 10 oz. fluid of A, and add 1 oz. fluid of B.

Workers who are not careful and systematic leave their hypo bath standing in the dish, where it accumulates all sorts of dust and dirt, and soon becomes very brown from the oxidation of developer carried into it by a few successive plates. This discoloration is usually so pronounced in a day or two that the bath is thrown away and a fresh lot made up. Thus the bath never becomes excessively charged with dirt in the form of dust or splashes of other chemicals. With an

acid bath, discoloration, if it occurs at all, occurs much more slowly, and there is a danger that the bath may be

Quite Clean yet Exhausted.

A plate is not fixed when the creamy silver bromide has disappeared. There is yet a double salt of silver and sodium which requires to be dissolved, and moreover requires an excess of hypo to dissolve it properly. So that it will be seen how very necessary it is to have plenty of fresh hypo, and if the bath as given in the opposite column is employed, it should on no account be used for fixing more than twelve half-plates, so that a perfectly safe margin is left. The weight of hypo in 10 oz. fluid of fixing bath is only a trifle over 3 oz., and the cost something like a halfpenny, so that the fixing of a half-plate when working with a perfectly safe margin costs the sixth part of a farthing. Some workers contend that the acid bath

Makes the Negatives Thinner,

though this is a proposition which it is difficult to accept if the bath be fresh and the plate is removed within ten minutes, by which time it should be perfectly fixed at normal temperatures. The negative would, no doubt, be less thin both in appearance and as a printer if it possessed the stain which the acid bath is designed to prevent. The great danger of the acid hypo bath is that the hypo may be decomposed owing to the presence of some other acid than the sulphurous.

A Simple Experiment

may be tried by placing in a clean measure-glass an ounce of the plain hypo solution as given in the 'Pro" column, and adding thereto a few drops of hydrochloric or sulphuric acid. In a moment or two a dense, yellowish precipitate will be formed, which consists of sulphur, and at the same time sulphuric anhydride is liberated, giving the characteristic smell of burning sulphur. If this happens in a less degree to a fixing bath and the sulphur is deposited in the film brownish-yellow stains occur which it is impossible to remove. Mr. Chapman Jones has persistently advocated the use of an alkaline fixing bath, and he points out that the addition of carbonate of soda and sulphite of soda to the hypo solution keeps the oxidized products of the developer in solution, allowing them to be washed out of the film when the negative is placed in the washing tank. He gives the following

Formula for Alkaline Hypo Bath.

Hypo (crystals)	4 ounces
Sodium (carbonate)	20 grains
Sodium sulphite	100 grains
Water up to.....	20 ounces

There can be no doubt that all risk of decomposition of the sodium hyposulphite is avoided by thus making the bath distinctly alkaline, and liberation of sulphur is avoided.

Conclusions.—The objections to the acid fixing bath appear to come from scientists rather than practical workers. The bath is very extensively used in America. The writer has used it considerably, and has never experienced any ill effects to the negatives, and the hardening effect on the film is an advantage.—*Photographic News.*

LENS STOPS AND THE IRIS DIAPHRAGM.

BY COLVILLE STEWART.

ONE is often recommended to use a small or a large stop, for various purposes, in the lens, and most cameras are nowadays provided with several; thus even the cheap box-form hand camera usually possesses F-8, F-16, and F-32, whilst the rapid rectilinear lenses supplied with most stand camera sets have "iris diaphragms," ranging from F-8 to F-64. More expensive lenses still we find "working at an aperture of F-5.4," and so on, whilst some of the most re-

cently introduced lenses, for portraiture, work at a much larger aperture still.

Now there are several good reasons for using stops of different sizes on different occasions. In the first place, if we mounted a plain lens in a plain brass tube, it would have no stop or diaphragm at all; if in the lens tube we were to fix a disc, with a hole in it, so that if you looked through the tube you would only see the central portion of the lens, we should have inserted a stop—or diaphragm. The smaller this stop is, the sharper would be the definition obtainable in a photograph taken with it; but clearly, as we prevent more and more light from passing through the lens the smaller we make the stop, so the exposure given will have to be increased. There is thus a two-fold advantage in being able to change the size of the stop; firstly, if we want a tremendous lot of detail in a picture, and plenty of contrast, we use a small stop rather than a big one; secondly, if the light is very bright, and we are fearful of over-exposing with a large stop, we use a smaller one, and thus cut down the effect of the light—or *vice versa.*

But what do F-8 and F-16, etc., mean? Well, you must understand that the object of a lens is to concentrate the rays of light from the subject photographed on to the plate. Every single ray which strikes the lens parallel to its *axis* passes through a certain fixed point, called the *focus.* The distance between this point and the lens is called the focal length, and is denoted by the letter F. The focal length of a quarter-plate lens is usually about 5½ inches, that of a half-plate lens about 8 inches, and so on. Stop F-8 means that the hole, stop, or diaphragm used in the lens is in diameter one-eighth part of F (the focal length of the lens) in width. Similarly, when using F-11, we are only using a circular portion of the lens, whose diameter is one-eleventh of the focal length, and so on.

Now the chief point you must bear in mind when altering the lens stop or iris diaphragm is that any such alteration will mean a different length of exposure. Let us suppose that we find by experiment, or by an actinometer (we shall talk about actinometers very shortly, by the way), that a quarter of a second's exposure would be required for a certain subject, when using F-8, then with F-11 we should want half a second, with F-16 one second, and so on. Cut out this little table, or, better still, commit it to memory:

If with F-8 we require 1 second's exposure,
with F-11 we shall require 2 seconds' exposure;
with F-16 we shall require 4 seconds' exposure;
with F-22 we shall require 8 seconds' exposure;
with F-32 we shall require 16 seconds' exposure;
with F-44 we shall require 32 seconds' exposure;
with F-64 we shall require 64 seconds exposure.

As an instance of the convenience of suiting the stop to the light, the following example may be quoted. An open landscape is being taken, the sky being bright, but the sun obscured; an exposure of a twenty-fifth of a second is considered necessary with F-8. The sun suddenly comes out very strongly, and only a quarter of the exposure is therefore necessary. The shutter will not work at anything less than 1-25th sec. By simply stopping down to F-16, four times the exposure is required; hence we give the 1-25th sec. in safety.—*Amateur Photographer.*

SELLING PRICES.

WHAT shall be the selling price of his photgraphs? is the most important question the professional is called upon to answer. Various issues are raised, and so many considerations have to be met and settled that a right or wrong de-

cision is vital in determining the success or non-success of a business. Should the prices fixed upon be too high, competitors will step in and seriously lower the demand for the higher-priced article; should they be too low, the status of the business will be reduced, the better class of customers bestowing their patronage on a rival. In both cases, the business will suffer a falling-away of clients.

Quality and Price.

Whatever kind of work is done, there exists a close relationship between the quality of the photograph and the price it will command. The general public may not be expert judges of portaiture, of artistic merit, or technical finish, yet, by some means, they invariably form a correct estimate of the qualities of a photograph, and the abilities of the photographer. The best work is always recognized as such; it secures a reputation, and the consequent patronage. In most neighborhoods clients can be found who will support the man capable of giving them high-class productions, and are satisfied to pay good prices, simply for the name of the producer, as the hall-mark of superiority. Having this name, the photographer may almost fix his own prices, quite independent of what are the general rates in the locality. Once in possession of a name for superior work, it is essential that the reputation be sustained, and prices may then be fixed more on a knowledge of the social status of clients than in reference to the competition rate, and the charges of other photographers. High-class portaits will always be sought after; they are obviously a luxury, and, being comparatively rare, they secure fancy prices; they advertise themselves, sitters are attracted from long distances, and the business ceases to be a purely local one. For these reasons superfine work must always stand alone, the price being excessive, or, at least, very much in advance of the usual rates.

Competition and Price.

Beyond the field of work which depends for sale on quality alone, artistic taste, originality and technical finish combined, there remains an opening for that which is supplied to meet a demand. There exists a permanent need for work of general excellence, supplied at rates that are not beyond the resources of intending purchasers, and hence the man who can meet this call at the lowest prices will secure the largest amount of patronage. Such prices are regulated entirely by competition of quality against price. If a locality is supplied by a photographer doing a certain quality of work, it will be useless for a competitor to ask higher prices for work of no better quality, or lower prices for work which is inferior.

To attract custom the portraits must be of better quality, supplied at the same or cheaper prices. To supply at a cheaper rate is, however, a mistaken policy, because it lowers the general rate; prices fall all around, and every photographer in the locality feels the effects—the competitor who commenced it in common with all others. To start a new business in a town hoping for custom on a reduction of prices is an error of judgment; it may succeed for a time, but in the end it must result in a general depression of prices. The only way to successfully compete with others, and to keep a business together, is to improve the quality of work and raise the price.

High Prices.

High prices are, in every instance, advantageous to the photographer. Photographs are, for business purposes, works of art; they cannot be classed with sugar or coal, as things people must have—necessaries, in short—and the price is not, like sugar or coal, fixed in the market, to a large extent, by the buyers. Skill enters largely into the production of photographs; it controls the price more than the cost of material or manufacture. The photographer has always to find a value for the skill he has

displayed; if he puts this too low, he degrades his status by under-valuing his abilities, and receives his profits, not on skill, but on cost of materials.

By making skill the standard of value, the photographer receives his returns from that which yields the largest percentage of profit, and makes them independent of materials and cost of production, from which his profits can never be very large. In settling his prices the photgrapher must always take into account his training, the years he has spent in perfecting himself in his profession, rather than the bare cost of materials, etc., required in producing his work. Like the artist, he must charge for skill, and not merely to make a profit on the cost of paint and canvas. We thus see that the status of photographers controls greatly the prices of portraits; the higher the status of a photographer, the better able is he to demand, and obtain, a high price for his productions. Besides this, he deals mainly with persons who are purchasing luxuries; the price paid by them will not interfere with, or cause them to curtail, their ordinary expenditure; hence the photographer is dealing with clients who can afford to pay on a higher scale than could be expected for necessary articles.

It is also generally overlooked that the photographer is not supplying a constant demand; his customers are mainly casual, and it is not to be supposed that a business of this nature can regulate its selling prices on the same lines as those which supply a daily or regular demand.

Low Prices.

The photographer who reckons the cost of material, wages and indirect expenses, etc., and then allows over and above this a charge of 10 or 20 per cent. for profit, and puts his prices in agreement with the final figures, will soon find that it is impossible to carry on a business on these terms. Prices must be put down to give quite 33 or 50 per cent. profit above cost of material, wages and indirect expenses, otherwise a deficit will occur, arising from the fluctuating and casual nature of the trade in photographs. The professionals who try to supply a dozen cabinets for $2.00 cannot make it pay. When they do survive the profits are realized upon frames or enlargements, or from an extra-priced photograph at $4.00 or $5.00 per dozen. Even to deal in quantities at these low rates does not yield a profitable return, because the market is not yet extensive enough. Millions of photographs must be supplied to make it pay, and such a demand is not yet reached. The intrinsic worth of a dozen cabinet portraits cannot be made the standard for regulating the selling price. The skill of the photographer, slack seasons, the fluctuating demand, the fact that the article is a luxury, and the first to feel a depression in trade—all these must be allowed for. From these various reasons we conclude that the public are by no means overcharged for photographs, and that professionals would only be doing justice to themselves if present rates were advanced 25 per cent. all around.—*Photo-Chronicle.*

MASKING DEVELOPMENT PAPERS.

EVERYONE understands the operation of masking to be the printing in of one portion of the picture to greater depth than the other portions. The "mask" serves to shield the thinner portions of the negative, while the denser portions are receiving the additional exposure which they require. This is general. In particular, there are a great many methods and ingenious schemes employed in masking.

The simplest masking operation is that of printing in the clouds of a negative that is so dense in the sky portion that

the regular print has what is called a bald-headed sky. If there are clouds in the negative, they can always be made to print by covering the foreground of the picture with a mask (any convenient piece of cardboard will serve) and printing the sky portion longer. The mask is held at a distance of a half inch or an inch from the negative and is kept moving during the exposure to avoid any sharp line showing in the print. The sky portion often requires two, four or even eight times the exposure that is given to the rest of the picture, and the results produced by this simple operation are surprising to those who are unfamiliar with its possibilities. The bald-headed sky effect is entirely overcome, for even when the sky portion of the negative does not contain clouds, a graded tint is obtained which is just as suitable for some subjects as a sky with clouds. This simple masking with a plain card is suitable for any negative with a fairly straight horizon line and without buildings, towers, or trees extending up into the sky. If there are buildings or trees showing against the sky, they will, of course, be printed darker than they really should be, but the difference will not be noticed unless the sky is given more than two or three times the exposure given to the foreground.

Thus far we have considered printing the whole of the sky uniformly. In making the exposure, the most convenient way is to use a card mask large enough to completely cover the face of the printing frame. Load the frame and lay the mask over the front, thus protecting the negative and the sheet of paper behind from accidental exposure. Place frame and mask in position in the printing light, whether daylight or artificial light be used, and commence the exposure by removing the mask and counting seconds. Suppose we have decided to give foreground 10 seconds and sky 40 seconds. Then just as the tenth second is counted, the mask is moved forward, up to the skyline, so as to prevent the foreground from printing any deeper. Keeping the mask continually in motion near the sky line the other 30 seconds are counted, when exposure is completed by moving the mask forward over the entire negative and removing frame and mask to a safe light for unloading. In handling the mask, one must watch the mask and negative continually to keep them in proper position for printing, and this makes it impossible to use a pendulum, or the second hand of a watch for timing. The writer has always found it most convenient to time by counting the ticks of an ordinary alarm clock. The clock need not necessarily tick seconds, though most of them do. The actual duration of one "count" is quite immaterial, so long as the counts are the same for different printings.

In recording the exposure on the negative envelope we may simply write "foreground 10, sky 40," which tells the whole story, so that the exposure may be easily repeated at any future time, providing, of course, that the printing light is constant.

This simple operation of printing the sky deeper may often be modified to advantage by "graduating" the exposure. Suppose, for example, we give the foreground 10 seconds and then very gradually move the mask toward the top of the negative at such a speed that the mask will just completely cover the negative as the count 40 is reached. This graduated exposure will print the upper part of the sky deepest and the horizon will be left lighter. It will not show enough to be noticed where towers, buildings or trees extend above the horizon line and the effect of having the parts of the sky nearest the zenith the darkest if often very pleasing. It gives the effect often noticed after a storm, of a strong lighting of the clouds near the horizon, those higher up being dark and foreboding in appearance. Still another method is a combination of these two. We might, for example, give the foreground 10 seconds, the entire sky 10 second more, and then gradually move the mask up so as to finish at 40 seconds. This could be recorded: Foreground 10, sky 20, grad. sky to 40. Often it may be found diffi-

cult to move the mask slowly and steadily so as to just reach the top of the negative as the last count is reached. It will produce practically the same effect if the mask is kept moving back and forth from horizon line to top, until the exposure is terminated, and it is usually easier to make the exposure in this way.

Other parts of a negative may be printed in, in the same manner as the sky. Suppose, for example, there is a bright roadway in the foreground. It is exceedingly likely that the road will reflect so much light that the regular print will represent it as a chalky whiteness. If the farther side of the roadway is even approximately straight in the negative the road may be printed deeper in exactly the same way as a sky, toning down the glaring whiteness, and bringing the detail to print out.

But perhaps the portion that requires deeper printing is entirely surrounded by delicate detail—a sort of black spot on the negative. A picture of a white building surrounded by dark foliage is a case of this kind. This problem is more difficult. First we make a black paper mask the size of the frame with an opening in it of approximately the size and shape of the white object. This is placed in position on the front of the frame containing the negative and is secured by two small gummed labels in such a way that the labels act as hinges. Now the frame is loaded and an exposure is made for the thinner parts of the negative, the mask being turned back on its hinges, out of the way. Then turning the mask back to position, the secondary exposure is made for the over-dense portion, keeping the negative continually in motion to avoid any sharp line showing between the two printings.

The last case to be noticed is the direct opposite of this. The negative is mostly very dense, but some small portion is so thin that it prints through too far before the rest of the print is dark enough. Such a case is occasionaly met with in portrait negatives. When the face is in shadow and prints out too dark in the regular print, the remedy is a diminutive cardboard mask, just the size of the thin portion of the negative, held on the end of a "hatpin." Being kept in continual motion, the long slender pin does not show in the print, and it is a simple matter to hold the mask so that its shadow falls on the thin portion of the negative during a part of the time of printing.

In all masking operations it is most important that the light be of such strength that the printing will take from 20 seconds to one minute for the dense portion. If the light is too strong, say so as to print the dense portions in 10 or 15 seconds, then the exposure for the thinner parts will often be but one or two seconds. Everyone who has used developing papers knows how difficult it is to make such a short exposure correctly, and the difficulty is very much greater when there is a mask to be moved to a certain spot exactly at the completion of the one or two seconds. On the other hand, if the exposure is more than one minute, the printing with continual attention to the masking becomes a very tedious operation.

If a strong source of artificial light is used, it becomes a simple matter to secure the desired printing time by working nearer to or farther from the light. If the light is weak, the exposure will be inconveniently long even when printing as close to the light as will give uniform exposure. Then the speed of the paper becomes a factor, and a rapid printing developing paper is much to be preferred. Yunox paper, being very rapid in the contrasty grades as well as the soft working grades, is a very convenient paper to use when the light-source is not specially powerful, or when negatives are large and have to be printed at a considerable distance from the light-source to secure uniform exposure to all parts of the negative. (To be continued.)

AMIDOL gives the fine black tones on bromide paper. The following is a good developing formula:—Sulphite of soda, 650 grs.; bromide of potash, 10 grs.; water, 20 oz. When dissolved add amidol 50 grs.

THE BUSINESS OUTLOOK.

BY W. P. FRITZ.

ONE of the most interesting and promising signs of the times from the viewpoint of a professional photographer is only beginning to make itself apparent. The sign of promise is to be read in all parts of the country in the increased attention that is being given to the development of what may be termed the purely business end of the photographic problem.

State associations everywhere are devoting space in their programs and time in conventions to its exploitation and discussion. The several photographic journals throughout the country have devoted considerable space to this subject during the past two or three years and it is more and more claiming and holding the individual attention of the progressive professional.

It is now coming to be very generally conceded that most of us are long on the artistic and short on the business side of photography. As the situation is becoming clear and photographers are realizing as they never have done before, that they must adopt modern methods of business in their studio and conduct their work on the same lines that alone make other business profitable, the outlook of the professional photographer improves.

In waking up and reaching out after more business, he consciously expands in every direction. The adoption of a more progressive policy in one part of his establishment, leads to improvements in the other lines, until almost before he knows it, he is producing work of a better technical, more artistic and more salable quality.

The discussion and adoption of modern business methods in the photographic studio is one of the most promising signs of the future in the photographic craft. It is only yet in its infancy, but it has come to stay.—*Nebraska Photographers' Association Souvenir.*

NEWS AND NOTES

Individuality in Mounting.—We have recently seen quite a number of professional portraits mounted on toned papers in the multiple method, the effect in most cases being good. There is no doubt that where the class of business done warrants any attempt at individuality of treatment, this style of mounting pays for itself. We say "pays for itself" advisedly, for until one comes to select the tints of papers and to decide the width of margin to be shown of each tint, they can have little idea of the amount of time needed for the securing of a good effect. If, however, the full dozen prints are mounted alike, the time per print does not work out excessively high, and to persons of cultivated taste the effect is undoubtedly superior to that produced by many of the stock commercial boards. Mere eccentricity should be guarded against, and the worker should have a reason for anything he has done, and be able to state it if any question arises. Decentralization of the print is sometimes effective, but unless the balance is improved it is better not to so mount the picture. Moderation, the adoption of quiet, refined effects, will be found to answer best in the long run, while occasionally something more forcible may be shown.—*British Journal.*.

The Surface of Portrait Photography.—Quite apart from questions of likeness, light and shade, contrast or brilliance, or pose and general arrangement, a factor in the appreciation with which

professional work is met is found in the surface of the photograph. This naturally varies somewhat with the class of customer and the size of the portrait, but, generally speaking, it will be found that the public taste runs to a semi-matt surface. To a great extent this quality of surface is the reason for the popularity of matt collodion papers and of some of the newer gaslight papers. It is the experience of some professional workers that the A.A. platinotype paper does not possess a sufficiently smooth surface, and they roll such prints through a burnisher slightly warmed, so as to assist in straightening the cards. To many, of course, one of the charms of either smooth sepia or black platinotype is the velvety character of the surface, and care should always be taken to ascertain, not necessarily by a direct question, which kind of surface is preferred by customers ordering platinotypes. With carbon there is the choice of double transfer from the ground opal surface, or from flexible temporary support, and of single transfer on an almost unlimited selection of papers. From an artistic point of view the single transfer surfaces are most pleasing, and next to these the flexible support, the prints being wetted after trimming, so that the glaze is almost lost, except in the shadows, where it gives a richer effect. Carbon prints, especially if dark, when stripped from ground opal glass, tend to have a heavy or leathery appearance in the shadows. This depends to some extent, it is true, upon the character of the negative, particularly in the matter of shadow detail, but it is always a danger to be guarded against.—*British Journal.*

A New Method of Photographing Coins.—Dr. E. Demole, in the *British Journal*, comments on the usual method of obtaining good photographs of coins and medals, that is to take a cast, color, and photograph it. He suggests the following method: Place the coin or medal between two sheets of white glazed card, which should be very thin and damped. The whole should then be placed between two pieces of thick felt and then subjected to strong pressure in a copying press. After a short time the impression of the coin is perfect. The impressions should then be lighted from one side and photographed not on to a plate, but on to smooth glazed bromide paper. The result is a negative, which is rather weak, but the reversed lettering is again reversed in the negative, and the side lighting having left the surface in comparative shadow, the face of the medal remains white or gray, as though all those parts in relief had not been illuminated, whilst the illuminated parts remain black. The result, although a negative, has all the charcteristics of a positive. The lighting is certainly a little stronger and unnatural, but it is quite sufficient to give all the necessary details of the coin. The real negative is, of course, the impression on the paper, and the negative made by the lens is the positive. The catalog of the coins of the Numismatic Society of Geneva, which number some thousands, has been illustrated by this process.

Blisters.—Just at this season of the year there is always an epidemic of blisters on bromide paper. These are, in nine cases out of ten, due to differences in the temperature of the solutions and washing waters. Very frequently, too, the use of a very strong fixing bath will cause it. If care be taken to immerse the prints as they come from the fixing bath in a 10 per cent. solution of common salt, and then let the washing water gradually run into the dish, this trouble may be avoided. An addition of an ounce of formaline to the fixing bath is also efficacious, but this is rarely necessary. When blisters do occur, the print should at once be dropped into wood alcohol, which makes the gelatine contract, and reduces the blisters by absorption of the water. They will sometimes also occur when the prints are toned with sodium sulphide. Then they are almost invariably due to using the sulphide bath too strong.—*Bromide Monthly.*

By Homeier & Clark, Richmond, Va.

By H. Mishkin, New York

By Lapres and Lavergne, Montreal, Canada

By the Otto Sarony Co , New York

By the Otto Sarony Co., New York

By Elias Goldensky, Philadelphia, Pa.

By Elias Goldensky, Philadelphia, Pa.

By Elias Goldensky, Philadelphia, Pa.

OUTDOOR PORTRAITURE.

BY PAUL CLARE.

It has many times been said to me that the amateur worker has seriously injured photography as a profession. The remark was more common a few years ago than now, and it usually came from some man not overblest with business or photographic ability. But there is more than a germ of truth in it when uttered by such persons, and I am not surprised that it is so.

Some friends of mine are proud in the possession of a first baby. Now such an event should mean money for the photographer; and the parents are more than willing that it should be so. But, unfortunately, they are not close to any photographer who can take the chance. There are two in their town, but one is quite out of the running owing to the cheapness of his work—he is happiest in midgets at a few cents a dozen—and the other's idea of perfection is a hair rug and no clothes. My friends appealed to me, and I did what I could. I took a 5x7 kodak and a six-film spool, and invited them into the garden. I had chosen a day when occasional light clouds just dimmed the sun. If it had been a bright day I would have stood them in the shadow of a tree. The mother held the baby, and all my pictures were of mother and baby, not of baby alone. In about twenty minutes I had made my six exposures, and the film was then taken to the drug store for developing and printing. Result, six pictures that gave satisfaction, and a certain amount of work going to the dealer at the drug store instead of to the photographer. They had a minimum of harassing, for I set my camera at "ten feet focus" and walked about at that distance from them until I saw my opportunity. Using the largest stop, U. S. 4, and setting the shutter at "slow instantaneous" speed (probably about 1-15 of a second), I got full exposure; all details shown alike in the white robe of the baby and the black dress of the mother; and soft modelling in the faces. What I missed were conscious artificial poses and studio lighting.

I am not one to praise the work of the amateur at the expense of professional work. Let the amateur try to *sell* his work and he will find people fight shy of it more than they do. But the amateur neglect of posing and of artificial lighting may well be copied from time to time by professionals—be adopted as a new style, much as a new method of lighting might be adopted. I know three or four country professionals who during the past two years have used their gardens as out-door studios during the summer months. A shade tree or two is a necessity, unless the photographer rigs up one or two artificial screens. Feminine daintiness looks prettier under flecks of sunlight than under a studio skylight. Of course such portraits should be full length, and preferably even at that not quite fill the plate. The lens may be stopped down sufficiently to redeem the garden background from being a mere blur; and the exposure need not be longer than a fraction of a second. And if the photographer has got an eye trained for pose he should, if possible, use a hand camera with a focussing scale, amateur, perhaps, but satisfactory in the result; particularly when there are children to be taken.

Depend upon it, outdoor portraiture may in some businesses be made a "leading line." For many of the pictures the accessories required are nil. But there is scope for the accessory in some pictures. A garden chair or a hammock may be effectively used; and there is afternoon tea in the garden. Effective family groups can be posed around a table or by the aid of a few chairs; and more easily out of doors than in the studio.

Just a hint in closing. It is not strictly

outdoor work but the carrying of the outdoor into the studio. Conventional palms are still much in evidence. Why not occasionally use growing plants instead? But I will say no more under this head at present.

THE MANIPULATION OF PLAIN PAPER.

BY CHAS. E. FAIRMAN.

THE use of plain paper in photographic printing began at a very early period of the history of photography. Fashions in printing methods since then have experienced many changes. We have had papers with glossy surfaces, papers with matt surfaces, a rage for cold tones, black and white prints, and then a mania for warm colors. The use of plain paper for many years has almost been abandoned, yet among silver printing papers there are none presenting so many good features to the careful and painstaking worker as plain paper.

The method presents the advantage that the paper can be adapted to the individual taste by the selection of a comparatively smooth or of a rough-surface paper. It can be suited to thin or to dense negatives; it can be varied in tone from a black and white through all the various shades of browns, purples, or grays; the prints will lie perfectly flat when finished, and may be as permanent as the paper used in their production will permit; they can be bound in a book as easily as the other pages can be bound; if heavy paper is used with a wide margin, the print can be plate sunk. Add to all this, that the process is inexpensive as regards both its first cost and its subsequent working.

I have said that plain paper is closely related to the earliest stages of photography. Without delving too deeply into the historical side of the question, it can be concisely stated that some time during the period between 1835 and 1839 (the exact date seems not to be clearly established) Fox Talbot discovered that by coating a paper with common salt and then brushing the salted paper over with a solution of silver nitrate, he could secure a printing paper with one hundred times the rapidity of paper prepared with silver nitrate alone. This solution was so adjusted that the nitrate was slightly in excess of the chloride, and upon this principle of the excess of the silver nitrate all plain papers are now prepared.

While it is inexpedient within the limits of this article to trace out the chemical reactions which take place at each stage of the process, it may be as well to note at this point that the silver nitrate and sodium chloride produce silver chloride and sodium nitrate by their mutual reactions, and that in the subsequent processes to which the paper is exposed any of the sodium nitrate which it might contain is quite inert and is washed out. Much of this salt remains in the sensitizing solution.

To the economical worker the use of plain paper offers the attraction of a moderate outlay. An ebonite or porcelain tray of suitable size should be used for sensitizing. The salting may be done economically in a shallow wooden box or dish lined with oilcloth if large sheets are to be used. The toning can be performed in an ebonite, porcelain, or other dish, but not in one of enameled iron, of course. In addition to these articles a box will be required for fuming, if that is to be done, and some clips to hang the paper up while drying. If the paper is handled in small sheets and sensitized by brushing instead of floating, most photographers are already in a position to adopt this printing method without any other apparatus than they already possess.

On the Selection of Suitable Paper.

As I have before stated, this printing method gives to the photographer the choice of the kind of paper to be used.

For book illustration the commercially-prepared photographic papers are probably the best. For broad effects the operator can choose from the various drawing papers, such as Whatman's, Michallet's, Arnold's, etc. Any good linen ledger paper can also be utilized. One thing should be remembered; pure papers are necessary for the permanency of the print, and papers which contain sodium hyposulphite (and many papers are found with a trace of this salt) are not suitable. It should also be remembered that the papers used should have sufficient strength not to become "pulpy" during the thorough washing which is required to eliminate the hypo. They must also be free from metallic particles, which would cause black spots upon the finished prints.

While all papers before sensitizing need a preliminary treatment, known as "salting," it is not necessary that all papers used should be seized by the photographer. Papers commercially prepared for photographic purposes, and such papers as the linen ledger papers above referred to, may be used without sizing. Drawing papers must always be sized before being salted; and it should not be forgotten that the coarser the texture of the paper the more important it is that it should be well sized. Where heavy absorbent drawing papers are used for large prints the sheets may be "sized" twice with advantage.

Sizing and Salting.

A two per cent. solution of gelatine is as good a "size" as the practical worker can desire. Sizing is done by immersing the sheets in sufficient of the gelatine solution to cover them well, and leaving them therein for three or four minutes. Or the sheets may be coated by spreading a pool of "size" over the surface and rubbing it well into the paper with a Blanchard brush or tuft of clean cotton.

Salting is performed by immersing the paper in a dish containing a solution made by dissolving a hundred and thirty grains of ammonium chloride and three grains of sodium carbonate in sixteen ounces of water. The paper should remain in this bath for about three minutes, and then be hung up to dry in a room free from dust.

Some prefer to accomplish the sizing and the salting in one operation. For their use the following formulæ are given:

Gelatine (depending on the texture of the paper)	16 to 80 grains
Sodium chloride	30 grains
Water	16 ounces

Arrowroot	90 grains
Sodium chloride	30 grains
Water	16 ounces
Common starch	90 grains

For weak negatives use sixty grains of sodium chloride in place of the thirty grains given in the above formulæ, while for dense negatives less than thirty grains of sodium chloride can be used to advantage.

Sensitizing the Paper.

The paper having been sized, salted and thoroughly dried, is now ready for sensitizing. For those who use large quantities of paper the most convenient method of sensitizing is by floating the paper on the surface of the solution. For this purpose a dish of porcelain or ebonite should be used, and sufficient solution employed to cover the bottom of the dish to a depth of fully one inch. Floating the paper is accomplished by taking a sheet by the diagonal corners and bending the sheet so that its centre will touch the solution first, and lowering it carefully by the corners so that eventually it will lie perfectly flat on the solution without wetting the back of the paper. The sheet should then be raised gently, one end at a time, and the bubbles broken by touching them lightly with a glass rod. Sensitize for three minutes, and then draw the sheet from the tray over the glass rod to remove the surplus solution; hang it up by clips to dry in a room, preferably a warm one.

Sensitizing and drying should be done in a room lit by gas or artificial light, or in a room where the daylight is screened

by a yellow curtain. The room should be free from dust, and the sensitized sheets should not be permitted to touch while drying.

For those who use paper in small quantities, sensitizing by floating will be objectionable on account of the quantity of solution necessary. It is possible to sensitize small quantities by brushing the solution over the paper with a camel-hair brush mounted with pitch, or, at any rate, without metal. The brush will have to be carefully washed after use or it will rapidly spoil. The paper should be brushed first lengthwise and then across, so that every part may be coated evenly. To coat it, the paper should be fastened to a flat board with drawing pins, and even coating will be facilitated by taking care to hold the brush in a vertical position. Some recommend a brush made by using a strip of glass of suitable length, from three to six inches in width, and covering the end of the glass with a double thickness of canton flannel or swansdown, secured in place by india-rubber bands. The solution in this instance is poured in a small pool at one end of the paper, and is then guided over the paper by means of the brush. It is well to draw a light pencil mark over the back of the paper before sensitizing in order to be able to recognize the coated side after the paper is dry.

In making up the sensitizing solution no one can fail to notice the wide divergence of opinion as to the number of grains of silver nitrate recommended to each ounce of the bath. Among amateurs the tendency is to use a solution containing from fifty to sixty grains to the ounce, while among those professionals who use such papers a tendency to employ a weaker solution prevails. When the paper is to be sensitized by brushing, the following solution is recommended: Dissolve sixty grains of silver nitrate in half an ounce of distilled water, then add strong liquor ammonia drop by drop, stirring carefully with a glass rod until the dark precipitate is redissolved. Then add water to make one ounce. Another method of preparing the sensitizing solution is to proceed according to the directions just given until the precipitate has been redissolved, and then to divide the solution into two parts. Into one part drop nitric acid drop by drop until blue litmus paper is changed to red; then add the other part of the solution, and, finally, water to make one ounce. If the solution is not clear, it should be filtered before use.

In the United States Geological Survey plain paper is used extensively in printing from the negatives of the field maps of the topographers. Rives' paper is used without sizing, and is salted with a bath containing six grains of ammonium chloride to each ounce of water. The paper is sensitized by floating on a bath containing thirty grains of silver nitrate to the ounce. This bath is used over and over again, and is kept in working order by the addition of water and silver nitrate until the hydrometer test shows thirty grains to the ounce. The prints are toned in an acetate bath containing one grain of gold chloride to sixteen ounces of water. Toning is completed in three or four minutes, and a good black and white color is obtained by this process.

Another method of preparing a sensitizing solution is to take fifty grains of silver nitrate, thirty grains of ammonium nitrate, three minims of strong ammonia, and an ounce of water. Prepare a sufficient quantity of the bath to float the paper, and pour it into a bottle, marking the height of the solution on the bottle. After using the solution, pour it back into the bottle, and fill it up to the mark again by adding for each ounce of water fifty grains of silver nitrate, thirty grains of ammonium nitrate, and three minims of strong ammonia. The first condition of the bath can be maintained by renewing it, being guided by the hydrometer test.

Fuming and Printing.

The paper having been sensitized and dried should then be fumed for about ten minutes in an air-tight box which is tall enough to allow of hanging up the paper by clips attached to wires running across

the upper part of the box, leaving a space of eight or ten inches between the lower edges of the paper and the bottom of the box. Place a saucer containing a small quantity of strong ammonia in the bottom of the box, close it, and fume the paper for ten minutes. There is a wide difference of opinion as to the value of fuming, the general belief being that fumed paper prints more rapidly than the unfumed. It is certain, however, that very good prints may be obtained from unfumed paper, and when only small quantities are used the fuming may safely be dispensed with.

Little need be said upon the subject of printing, except that weak negatives should be printed in a weak light, while strong negatives can be printed in sunlight. The printing should be carried two or three shades deeper than the same negative would require if printed on albumenized paper. The prints should be kept in a dark place from the time they leave the printing frame until they are toned, and the toning should be done on the day of printing. It is equally important that the paper should be used as soon as it has been sensitized and fumed, and printing should not be delayed over twenty-four hours after the paper is sensitized. Some recommend storing the paper after sensitizing, placing it between sheets of blotting paper, prepared by soaking chemically pure blotting paper in a solution containing one ounce of sodium carbonate to twenty ounces of water. The blotters are then dried and are ready for use. It is claimed that paper can be preserved in this manner for from one to two weeks, but as no one has claimed that papers improve with age the safer plan is to use the paper as soon as prepared.

The Toning of Plain Papers.

Before placing the prints in the toning bath, they should be washed in several changes of water until the slight milky appearance shown in the first washing water entirely disappears. The prints are then transferred to the toning bath, and toned until the desired tone has been reached, remembering that they will dry slightly deeper than they appear in the toning bath. The prints are next transferred to the fixing bath, where they should remain for ten or fifteen minutes, and are then placed in running water, after which they may be dried under pressure upon sheets of blotting paper. It must not be forgotten that while the prints are in the preliminary washing waters and while in the toning and fixing baths they should be kept moving, the position of the prints being changed one by one, so that they may not be washed, toned, or fixed unevenly. The changing in the toning bath should be done quite rapidly, and the prints carefully watched, or overtoning may result. Care must also be observed in fixing, as prints which are allowed to settle together fix unevenly, and become spotted.

As a general principle it may be stated that less gold is required in toning plain paper than is needed for albumenized papers. It may also be stated that the toning of plain paper occupies less time. For those who only make a few prints the use of a bath that can be readily prepared is recommended, and the solution may be thrown away when the toning is finished. Those who use plain paper continuously will find it convenient to employ a bath that can be used over and over again. The following baths where small quantities are toned are recommended:

Water	9 ounces
Gold chloride solution (one grain to a dram)	1 dram

Neutralize with sodium bicarbonate. Care should be taken that the bath is not made too alkaline, or too acid, and it should be used immediately.

Another toning bath for immediate use is as follows:

Gold chloride solution (one grain to a dram)	1 dram
Borax	10 grains
Water	10 ounces

In using these solutions, if a black tone is desired, the prints should be toned until they are slightly blue, and then given a supplemental toning in a platinum toning bath.

A toning bath which can be used over and over again is made thus: Dissolve fifteen grains of gold chloride in fifteen drams of water, and use this as a stock solution. To tone, take a pint of water, a dram of the gold solution, and add to the bath a saturated solution of borax nutil a test with litmus paper shows a slight alkaline reaction. This bath can be used over and over again by the addition of more gold when it becomes weakened from use, remembering always to keep the bath slightly alkaline by the addition of borax. It is well to bear in mind that a bath too rich in gold tones too rapidly and unevenly, and that a bath too strongly alkaline tones slowly. A bath in good working condition should tone in from three to four minutes. It should not be used too hot or too cold.

Very pleasant warm brown tones can be obtained by omitting the gold bath and placing the prints after the preliminary washing in a hypo solution, one ounce of a saturated solution of hypo to four ounces of water. The prints should be printed very deep, so that the high lights are quite dark in tone, and the immersion in hypo should be carried on for at least twenty minutes. The prints should then be thoroughly washed, so as to remove all traces of hypo. Prints made in this way have been exposed to strong sunlight for months without showing any change, and are believed to be permanent if the paper used is of good quality.

Prints should be fixed in a hypo solution composed of two ounces of hypo to the pint of water, the fixing occupying from ten to fifteen minutes. Too much emphasis cannot be placed on the final washing, which should last an hour in running water, or in water frequently changed. Care should be taken to keep the prints from sticking together.

Any good mountant, such as Higgins' photo-paste, or starch paste, will serve for mounting, and little need be said on this subject, as former experience in mounting prints will suggest the best methods.

An easy and effective way of displaying these prints is to plate-sink them. A heavy paper should be used, and the print masked with a wide margin. Cut a card of thin Bristol board large enough to cover the print, with a half-inch margin all round. Centre the card carefully on the face of the print, take up the print and card without permitting a change of position, and place them against the window pane, the back of the print being outward. Trace firmly round the card, which can be seen through the back of the print, with a blunt instrument, such as the bone handle of an ink-eraser.

This will depress the picture to the depth of the card used.

THE PERSONAL ELEMENT IN FACTORAL DEVELOPMENT.

BY A. LOCKETT.

It has often been suggested that a fatal flaw to the general scientific accuracy of factoral development is always present in the varying estimation of the time of appearance by different persons, or even by the same person at different times. It is argued with some show of truth that, with a long Watkins factor, the multiplication of any error in gauging the exact time of appearance will greatly increase the total length of development, thus producing negatives of undue density and probably untruthful gradation. The details of some experiments carried out recently by the writer, with a view to obtaining at least a slight clue to the chances and amount of error to be expected from the intrusion of the personal element, during the development of a given number of negatives by the average individual, may not be without interest.

Conditions of Test.

It was recognized, in the beginning, that the only way in which any useful conclusions could be drawn must be by comparing the results obtained by a number of persons, working simultaneously, yet independently, and having entrusted to them for development plates of the same batch, exposed for exactly the same time on a given subject, the developer, the temperature, and all other factors being identical. A dozen negatives were therefore exposed on a typical landscape, choosing a time when the light appeared perfectly steady and unlikely to change. As the exposures were made in rapid succession with a magazine hand camera having an ever-set shutter, any difference due to change in light intensity during the operations must have been infinitesimal. The only chance of variation, in fact, lies with the shutter. but it seems improbable that exposures following so closely on each other, and necessitating no readjustment or alteration of the mechanism, can differ to any serious extent. The correct exposure was ascertained by means of an actinometer.

Method of Observation.

In order to secure simultaneous development it was decided to limit the operations to five individuals seated round a circular table at similar distances from a cylindrical ruby lamp; each of these having to flood his plate with developer at the word of command, and immediately to start counting mentally, the time being taken from the loud ticking of a pendulum clock. This, however, was only used for its convenience in judging the time of appearance, the total time of development being reckoned in each case from the observers' watches, which had been previously compared and found to have only a negligible difference in timekeeping properties. The observers had their dishes screened from each other by sheets of cardboard, and were supposed to note down their calculations silently and independently, and to withdraw and fix their negatives at the expiration of the estimated time of development. Of the five observers, No. 1 was a photographic expert; No. 2 had a fair acquaintance with photography; while to the remaining three the whole affair was entirely novel and had to be carefully explained before starting.

Some Results.

A comparison of the resulting negatives and notes gave some interesting results. Two of the negatives would be called of correct density by most workers; one was a trifle too thin, but not to any great extent; and the remaining two were just a shade too dense. No. 5 had failed to flow the developer over at the right moment, so that there was a doubt whether his negative had been timed in strict accordance with the instructions. The degree of uniformity in the negatives was, however, much greater than had been expected, and far more striking than the differences. The exact figures obtained were as follows, using a metol-hydroquinone developer with a factor of 14:

Observer	Time of Appearance	Duration of Development
No. 1	18 secs.	4 min. 12 secs.
No. 2	21 secs.	4 min. 54 secs.
No. 3	23 secs.	5 min. 22 secs.
No. 4	26 secs.	6 min. 4 secs.
No. 5	25 secs.	5 min. 50 secs.

Another five plates were now distributed, but the observers were not informed that the subject and exposure had been the same as before. This time the results were:

Observer	Time of Appearance	Duration of Development
No. 1	22 secs.	5 min. 8 secs.
No. 2	23 secs.	5 min. 22 secs.
No. 3	22 secs.	5 min. 8 secs.
No. 4	26 secs.	6 min. 4 secs.
No. 5	26 secs.	6 min. 4 secs.

It will be noticed that a greater uniformity had now been reached, but that observers 4 and 5 were still a few seconds behind the others in noting the time of appearance. In spite of this, the negatives were remarkably equal in density, which seems to prove that some latitude in noting the exact time of appearance is allowable; at any rate, with a compara-

tively low multiplying factor. It was also concluded that Nos. 4 and 5 would have got the same results as the others by using a lower factor, and, the experiment being tried with the remaining two plates, this proved to be the case. The moral here is, obviously, that when any worker finds that his negatives are, as a rule, too dense or too thin when using the multiplying factor commonly recommended, he has only to raise or lower the latter, as the case may be, to obtain perfectly satisfactory results.

Importance of Ample Light for Developing.

So far, these experiments had been conducted with an ample allowance of bright ruby light, proceeding from a single thickness of carefully tested red glass, which shed quite a flood of illumination over the dark room, while being perfectly safe for any but panchromatic plates. It was decided later to ascertain the variation in results, if any, which would ensue on developing a similar series of identical exposures by the aid of a deep ruby lamp of the old-fashioned type, in the Cimmerian gloom of which so many photographers are still content to grope. Under the altered circumstances some instructive figures were obtained. Not one of the five observers agreed even approximately with the others in judging the time of appearance, and the resulting negatives were either too thin (in one case only) or much too dense; one negative alone could by courtesy be called of fairly correct density. It might not unfairly be deduced from this that some at least of the faulty results credited to the personal element are really due to nothing more nor less than insufficient dark-room lighting. One can get used to judging density by the method of inspection in even the very worst of lights, but a half-hearted darkness of that description is useless for the close examination and accurate timing required for the successful working of the factoral system.

Effect of Error with Greater Factors.

The previous tests were made with what might be called a moderate Watkins factor. It now remained to be seen what would happen when the factor is greater—as, for example, with metol (30) or rodinal (40); where there is the additional obstacle that the image appears very quickly and errors are more likely to be made in judging the time of appearance. The result of a series of experiments with several long factor developers tended, however, to prove that, on the whole, the very rapidity of appearance which characterizes them is, with ordinary care in observation, a safeguard against error. That is to say, the image comes out so quickly and unmistakably that an average intelligent worker can hardly be more than a fraction of a second in error without gross carelessness; providing, as before suggested, he is able to see what he is doing. Certainly, anyone trying factoral development with a high factor developer for the first time is apt to obtain some contradictory results; but a little familiarity with the method of working soon overcomes this, and the operator is able to literally pounce on the time of appearance without hesitation.

Conclusions.

It would not, perhaps, be wise to dogmatize too much on evidence collected from a comparison of results obtained by so small a body of observers. Still, the absolute independence of the latter, and the fact that the majority of them were practically unacquainted with photography, makes it fairly probable that the points in which the tests agreed would be tolerably representative of what would happen in the case of the average observer. The following conclusions it would appear, then, may not unjustly be drawn:

(*a*) What is called the personal element is of comparatively small importance in factoral development, providing average care is used; being, in fact, much less evident and less likely to cause variation in results than with the old system of judging density by inspection.

(*b*) A liberal allowance of light in the

dark-room (of course, non-actinic) is of the highest importance while watching for the first appearance of the image.

(*c*) Although a medium factor, neither too long nor too short, is probably preferable, there is practically no greater fear of variable results with a large developing factor than with a small one—given reasonable care in watching for and estimating the time of appearance.

(*d*) Some individuals are habitually quicker or slower in noting the emergence of the high-lights than others; but, as a rule, this variation is uniform, and may be allowed for by adopting a proportionally higher or lower factor for the same developer.

(*e*) Within limits, a slight error in judging the time of appearance will have no serious results.—*British Journal.*

HINTS FOR THE DARK-ROOM.

Labels.—An ordinary gummed label soon comes off in the frequently damp atmosphere of the dark-room. Sized and varnished it will last as long as the bottle, practically. The writer has had such labels in use for years in the acid-laden atmosphere of a chemical laboratory without their showing signs of leaving their supports. Use a thin paper, make the bottle dry, and rub the gummed and moistened label down. Then apply a coating of size (1 part of glue in 10 parts of hot water), and, when quite dry, varnish with an "oak" or "church"—*i. e.*, a varnish containing linseed oil. Spirituous varnishes (as used for negatives) do not last so well.

For attaching the labels, a mixture of glue and gum is better than gum alone. Here is a good formula which is easily made up: Soak 1 part of the best glue in water until thoroughly swollen, add a little sugar-candy, 1 part of gum-arabic, and 6 parts of water. Boil with constant stirring over a spirit lamp until the whole gets thin. The mixture does not keep; coat sheets of paper with it, let dry, and cut up into convenient sizes.

Ground-glass Labels.—One of the best methods of labeling is to dispense altogether with paper labels, and instead to grind a patch on the bottle with emery powder. The formula can be written on the ground portion with lead-pencil. The ground patch is made in a few minutes with a piece of moistened emery cloth, aided by a little emery powder. The writing is removed without any difficulty by rubbing with a piece of hard rubber. It does not wear away or become illegible in use. A coat of varnish can be applied to the patch and the writing thus made quite permanent. But the convenience of the method lies in always having the label at hand (as it were) without having to look around for paper or gum. Large bottles of stock solutions should be labeled in big, bold letters, HYPO, ALUM, etc., in Brunswick black or other good varnish paint. A solution of ordinary sealing-wax in wood alcohol is as good as anything. Grind the wax, first alone and afterward with the solvent, before applying.

Cleaning Bottles.—I could easily fill pages with directions for cleaning bottles which have contained this or that chemical. But it does not pay to spend time over such business. If water does not clean the bottle right away, try shaking a little hydrochloric acid in it; if this is of no use, shake up (still with the hydrochloric acid) with shot, or small coal, or coarse sand, or something which will scrape the impurity off the side. If this fails, cast the bottle aside as useless.

Solutions That Do Not Keep.—The permanence or otherwise of a solution is a matter of conditions—generally whether the air gets access to the liquid or not. Two methods of preserving solutions from the action of the air are worth bearing in mind. The first is to store the solution in a lot of small bottles, say 4-oz. capacity, each filled to the lip and well corked. The second is to store the

solution in a bottle with a cork at the bottom such as is described above, and to pour a layer of "heavy" paraffin oil on the top of the solution. The oil, although designated heavy, is lighter than water, has no action on any ordinary solution, and effectually excludes the air.

Bottles for Developer.—The bottles for one's set of solutions—*e. g.*, pyro, bromide, and alkali—may very fitly be selected of distinctly different size and shape, so that they cannot be mistaken in the rosy gloom of the dark-room. As suggested some time ago, the bottle proposed for poisons, and in shape like a fashion-plate young lady—*i. e.*, nipped in at the middle—might be adopted for pyro were it not to be feared that by a natural association of ideas the photographer might pass from clasping of the waist to pressing to the lips—with disastrous results.

Accuracy in Weighing.—There is such a thing as needless accuracy. It is no good weighing chemicals more accurately than the solutions containing them can be measured. From tests which I got some careful photographic friends to do in conjunction with personal tests some time ago, I found that in broad daylight their measurements of solutions (1 or 2 ounces) varied about 1 per cent. (1 in 100) on either side of the truth—*i. e.*, total error of 2 per cent. Hence, weights can be safely just as inaccurate—but not more so. This means that an "ounce" of, say, potassium bromide may be 4.37 (1-100 of an ounce) more or less than an ounce without "cutting any figure." In other words, it may be 441.8 or 433.1 grains. This means that the trouble of finally adjusting the weight to one-half a grain is simply wasted. When small quantities, 20 grains and less, are being weighed the greatest accuracy must be observed.

Seeing in Semi-Darkness.—The glass measure has an aptitude of eluding one's vision in the dark-room. It is forced to reveal itself if we provide it with a coating of white enamel paint on its foot and around its upper outside edge. This is one of those absurdly obvious hints which the erudite miss.

When Pouring from a Bottle.—Two last hints ought to be so borne in mind that the practice of them becomes habitual. Always keep the label uppermost when pouring from a bottle, so that if any liquid trickles down the side the label misses it. Result—your labels keep clean and legible for much longer. Secondly, if you want to deliver drops (or a very small quantity) of liquid, just moisten the lip of the bottle with the finger. The fluid then trickles out without having to overcome the resistance of a dry patch.

Using Solutions.—Under this general heading I want to say some useful things about such things as adjusting temperature, rocking solutions, cleaning dishes. As the last is a necessary preliminary (frequently), we may take it first.

Cleaning Dishes.—Dirt, according to the famous definition, "is matter in the wrong place," which is very true in photography, where dirt may be various in kind. I am going to name two reagents for its removal: commercial hydrochloric acid and paper. Commercial hydrochloric acid is a solvent of many precipitates, sediments, deposits, which are not removed by water, and it is pretty safe to say that what is not removed by it must be rubbed off by the second reagent. Keep the spirit mixed with an equal volume of water, and see that you do not splash any of it (neat or dilute) on clothes or upholstery, for it leaves a rotten and stained patch as a memento of its visit. Dishes, measures, etc., if rinsed out once or twice with this liquid are easily made quite clean, as a general rule. Moreover, it decomposes hypo, and thus renders innocuous, as regards subsequent use, any dish which has been used for fixing. If the dish be of porous material (*e. g.*, granatine, "porcelain"), and cracked, it is not safe to assume this, for the hypo or the acid is removed from the cracks with difficulty, though it may do so subsequently sufficiently to cause stains in, say, toning collodio-chloride prints. Moral: Keep your cracked dish,

if you must keep it at all, for one particular purpose.

If the acid will not remove any stain, brisk rubbing with a tuft of any kind of paper will almost always do so. I know of no better way of cleaning right into the corners of dishes than this.

When and When Not to Filter.—Do not filter if you can do anything else. It is better to let any deposit settle (if it will) and pour off the clear liquid above it. You should never filter solutions containing pyro, hydroquinone, or other developers which oxidize readily, because filtration exposes the solution so freely to the air. If it is necessary to filter it should be done before the pyro, etc., is added.

STUDIO ACCESSORIES.

THE professional photographer desirous of holding his position, keeping in the front ranks, and making his business a paying concern, must keep constantly before him the state of his studio accessories. Portraiture is primarily a matter of dress, and secondly of furniture. The sitters do their part in appearing before the camera adorned with articles of attire adapted to the momentous occasion, the photographer having thrust upon him the duty of providing an environment which shall not spoil the effect his clients desire to produce for their own satisfaction and the edification of friends.

The Luxurious Style.

It is sometimes urged against the portraiture of our leading professionals that the furniture is too profuse, occupying so large a portion of the stage that the sitter becomes merely a detail, an afterthought, put in to supply the human element in a picture, which might be appropriately labeled: "Interior, with Figure." To the photographic purist, the "Art for Art's sake" man, this criticism may appeal; to the man of business it will be made in vain, being summarily dismissed as of no practical worth. With this view we entirely agree, confessing to some regard for a portrait containing a well-arranged selection of accessories. The photographer must please his clients, and when these are drawn from the upper classes—persons living in homes richly furnished—they require a portrait photography in harmony with such surroundings, desiring works having the air of wealth, of luxury, and it is thus in the interests of trade to meet the demand. In doing so the photographer violates no principle of pictorial representation, for in all times the artist has depicted his sitters in association with the things of their daily life. All artistic sentiment being against a duchess in a dairy, or a dairymaid in a drawing-room.

The Conventional.

Whilst it is necessary to keep the accessories in harmony with the social position of the sitter, it should not be overlooked that all classes are susceptible to a certain amount of flattery in this connection, being more pleased with a portrait giving them a social standing above, rather than below, that which they really occupy. In all cases the photographer, whatever may be the class that give him patronage, should be in advance, having accessories of a more expensive and luxurious nature than his customers are likely to possess. Only in this way can he apply this very subtle form of flattery. He already flatters the features by retouching, and this latter device is flattery to the dress. In working along these conventional lines a difficulty of a technical character will arise, needing attention to be overcome. The furniture designed for household decoration is inconvenient for studio uses, not lending itself readily to photographic methods of composition and posing. Is is too angular, possesses awkward scrolls, quite preventing the subject being brought close enough for securing a good effect. A

small knob is sufficient to separate the sitter from a chair or table creating a lack of unity in the composition, making it a picture of two objects in place of the simple design intended. Photographers who have experienced this drawback are constantly on the watch for any article combining a good design with utility in studio practice, in this way renewing their stock. Attempts have been made in supplying accessories to suit professional purposes, not with much success, for, whilst quite adapted to that end, they diverge too much from domestic patterns. In a picture looking what they are—quite photographic. There is here a want yet to be supplied, a field is open for the furniture designer, who is able to combine photographic utility with a pattern neither grotesque nor unusual.

The Plain and Simple.

In general, professional portraiture must be conventional, the usual thing, the photographer, whatever may be his own desires or aspirations, being compelled to meet the demands of the public taste. In particular localities, however, a class exists who will patronize work departing entirely from popular notions. Novelty attracts, and the man with a strong personality can impress the public, lead them to support him, and acquire a taste for his own individual style. An effective portraiture will follow from discarding all accesories and paying close attention to expression, lighting, posing and drapery. Mrs. Cameron was one of the earliest of these unconventional types, though since her time others—such as those who model their work after the paintings of Rembrandt, Gainsborough, Reynolds, or Velasquez—have met with success. To abolish accessories is to give added importance to the background, it becomes the chief study, requiring every attention to make it harmonious with the style of the subject. It is for this reason that the above-mentioned painters have been so closely copied by the Cameronian type of photographer. To some tastes this simple portraiture is very agreeable, and, with the right man, and a fitting neighborhood, enough patrons are secured to make it commercially profitable. A few can even go beyond it, with work that approaches to the "soul-studies" characteristic of Watts. Mere sketches and suggestions in place of the clear, sharp, well-defined photograph. However interesting these productions may be, in the present state of public taste, the demand for them must remain strictly limited, and the majority of professionals could not insist on supplying such work to their clients, and still retain a profitable connection. From a financial point of view it would be a distinct gain if expensive accessories could be abolished, since the charge on a business which they entail, not only in purchasing but in keeping in good condition, would go with them. This was impressed upon us on once visiting the studio of a photographer of this class, a well-known man, whose work is much appreciated; beyond a few backgrounds, painted by himself, some drapery and screens, his accessories were only of a nominal value. A scanty outfit, calling for little expenditure, reducing the cost of working expenses to a minimum, a consideration when competition is so keen as nowadays. Anything tending to keep down expenses without reducing efficiency being money saved. Here the business man must study his public, for it will economize his resources if he can rely on clients who are satisfied with a portraiture of the simple kind.

Bubbles in Lenses.

So many of the newer lenses are made of Jena glass, and it is impossible to avoid at all times the occurrence of bubbles in the glass manufacture. But they may always be disregarded, as they can only stop a little light, and this is negligible; for supposing the lens to be of 8½ in. focus, and working at *f*/6., the diameter of the glass would be 1½ ins., and assuming that the bubbles were both together only 1-16 of an inch in diameter, it is obvious that the difference between 1½ and 1 1-16. as regards exposure, would be impossible to detect.

PHOTOGRAPHIC PORTRAITURE AS AN ART.

The following paper on portraiture by J. C. Strauss, published some years ago in the "Art Review," is so full of meaty ideas that we republish it for the benefit of our new readers.

As I understand it, the purpose and scope of portrait photography as an art is to approach nearer and nearer the work of recognized masters in portraiture. The worker with a camera, however, is at a personal disadvantage, as compared with the painter, by reason of the fact that the latter is, to a greater or less degree, acquainted with his subject, and there is ample opportunity, while sittings are in progress, for friendly, unrestrained companionship. Through this intimacy of association the artist acquires a fair knowledge of the mental make-up and characteristic traits of his sitter, and is thus enabled to put the latter's individuality on the canvas.

On the other hand, the photographer, even one of the better class, in most instances, has probably never before met his patron, and to that extent is handicapped in his endeavors to put character and soul into his portrait.

With the photographer the sitting lasts only a portion of an hour, and a part of this time is, of necessity, devoted to arranging of apparatus. If the rapidity with which a sitter can be disposed of—rushed into the "operating" room, put into "poses" with the head securely clamped in a "rest" (?), asked to "look pleasant," and excused from further attention by a vociferous "next!"—if this method of rapid handling of subjects were the one employed by all photographers, their process of portraiture would never advance beyond the purely mechanical.

Portraiture by photography is now claiming recognition as an art, because a few of those in the craft have had the courage to say:

"I will not permit my name to go on factory work. I will not allow myself to be transformed into a machine in which rapidity of action is the only consideration. I will aim to obtain results which will command approval from those who are competent to judge artistic productions. If, in order to accomplish this purpose, I must limit my daily sittings to three instead of thirty, this shall be done. I must have time to give each subject proper attention. I want my work to bring out the individuality of the sitter. There must be soul, as well as features, in the face."

In order that the principles underlying artistic portraiture may have opportunity for expression by photographic methods, it has become essential for a man who endeavors to create productions having art merit, and who strives for quality rather than quantity, to devote more time to each subject. By this I do not mean to say that the actual time employed in making of negatives should necessarily be increased, but that the time devoted by the photographer to becoming acquainted with his patron should be greater. The purpose of this is obvious; it allows an opportunity for learning the salient points of character and utilizing this knowledge toward obtaining a portrait not only good as to feature-likeness, but strikingly natural in portrayal of characteristics.

It must be admitted that photographers are largely to blame for the small demand for artistic merit in their productions. For years they have taught the public that the correct thing in portraits was a white, shining face, without a trace of the bone formation. The most important *employé* of the "gallery" was the "retoucher," who, without any correct knowledge of the anatomy of the "human form divine," chiselled the negative until the resulting photograph portrayed a being out of all resemblance to the "image of his Maker."

The boon companion of the retoucher

who produced smooth faces was the artist who believed that the face should be as white as the collar, shirt, front, or protruding corner of handkerchief.

The photo-factor knew all about chemical effects in his print, which made the stitches in the button-hole of a man's coat "to part and stand out like quills upon the fretful porcupine."

It is difficult in a year or two to offset the effect upon the public of the practices of a couple of decades. It will probably take some time yet until patrons unlearn the teachings that photographs white in color and defrauded of character by excessive retouching, with prominence of detail, are not only untrue in fact, but wholly lacking in art qualities.

Among those who strive for the higher qualities in camera portraiture the retoucher's importance has vanished, and his work has been made secondary. It takes many years of life to produce the lines of character in the human face, and these should not be eliminated to suit the whims of a barbarian whose ideal is the face of a chinaware doll.

Comparative color-values is a subject of much thought and conscientious study. A mere contrast of harsh lights and shadows is meaningless, and no more resembles the living subject than do the crude drawings of the aborigines. An exaggerated regard for details in the unessentials of a picture will be replaced by proper suggestion, in accord with nature. To sum up: A portrait by photography, just as one in oil, should have feeling and warmth and character. And in the last year there has been a great advance, a wonderful progress toward the truthfully artistic and artistically truthful in photographic portraiture. The work now being done by those few photographers who realize the errors of the past as compared with that of a few years ago, shows the same degree of improvement that there was from the tin-type to the photograph of recent times.

That this forward movement will continue is guaranteed by both the works and the faith of the recognized leaders in our craft.

COMMERCIAL PHOTOGRAPHY.

BY EDWARD J. DAVISON.

[THERE is very little real information to be obtained from either books or magazines on this important branch of photography It has so many different phases and branches. Every photographer has struggled with some of its many problems and did not have time to make a note of his method for the benefit of the craft.

The following useful pointers from the pen of Edward J. Davison, of Kansas City, should prove helpful to many. Mr. Davison is an expert worker and writes whereof he knows. ED. W. P. M.]

Photographing Bottles.

When photographing bottles and small articles, where it is desired to have a perfectly white ground, and where it is difficult to block out the background, an excellent way is to use a ground-glass for the background and get the light through it from a window at the back. Where a window cannot be used I arrange a mirror to reflect light upon the ground-glass.

The uprights supporting the ground-glass must be free and clear between and have nothing to obstruct the light coming through the ground-glass. Sometimes a background of white cardboard can be lighted from above, but the other is such a simple plan that I would advise its use. Where the oval or round surfaces of the bottles act as mirrors and reflect the angle bars of the skylight, a screen of tracing cloth should be placed between the camera and the skylight to

cut off these marks. This precaution is necessary in a great variety of work in order to avoid harsh high-lights and images reflected into the articles themselves if they are polished. Do not try to do away with every high-light, however, for that would leave a flat-looking print.

Chinaware Bric-a-Brac.

In making photographs of chinaware, bric-a-brac and similar small articles for commercial purposes, it is necessary to preserve the design, form and details of the originals. I know of nothing which will accomplish this so well as an arrangement of movable shelves lined and edged with black velvet, on which the articles are arranged so as to show their valuable points. The illumination should be secured by light coming through tracing cloth. This will kill reflections and soften or obliterate shadows.

Among the most difficult lines brought to the studio of the commercial worker, that requiring the largest amount of skill and patience is decorated china having a polished and oval surface. One must use an orthochromatic plate, of course. and sometimes a color screen. About the only light that can be used is a side or top light, or both, coming through tracing cloth. This will diffuse the light and prevent a patch of high-light often right in the decoration. A streak of high-light on the edge and handle of a cup and saucer is an advantage. This style of lighting will show a roundness and softness not obtainable in any other manner. If one is not familiar with the correct position for such articles, it is best to consult some catalogue and find the standard method of presentation or display before attempting; and I would like to emphasize the necessity for sticking to standard positions with almost everything the commercial photographer gets in his shop. There is a right and wrong position for everything, and much time will be saved if the photographer finds out beforehand just what that is. For instance, a cup and saucer must show the back as well as front edge at the top, so that it must be tilted a little toward the camera, or the camera look down on it and the swingback used to keep the perpendicular lines rectilinear. A long-focus lens and long-bellows camera are necessary for this work.

Silverware: Cut-glass.

Where much silver or glassware is to be handled a stand with movable shelves is a necessity, and the shelves should be held on pins so that they can be placed at different distances apart. For cut-glass, the finest light is a strong top light. This will give brilliance to the facets and liven up what would otherwise be dull. In some factories the pieces are dipped in whiting tinted a light gray before photographing. These shelves will do for silverware, which should be photographed before receiving its polish; but this can seldom be done away from the factory. A good method for dulling bright spots is to rub the place with beeswax and then polish with the hand. This is a simple remedy and can be done easily and quickly with a little practice.

When flat surfaces have inscriptions that do not show, it is a good plan to rub into the engraving a black powder which jewelers use in their work. It will usually stick sufficiently well not to need anything mixed with it. When prints are to be made from negatives of colored subjects and the darker colors are too thin in the negative, those parts of the negative can be tinted with blue aniline, but it is very skilful work. The color is, of course, applied on the glass side. This dodge is old to most portrait workers. and enters largely into the retouching of commercial negatives of solid articles such as metal ornaments and the like.

Legal Work.

This is a most unsatisfactory class of work, for several reasons. One never knows when he will be called upon to go into court to testify, nor how much time will be consumed, so it is difficult to fix on a price that will justify. I have made a great many negatives for this

class of work. A correct record should be kept of each exposure, showing the position of the camera, the exact locality of the place, if outdoors, and the direction in which the lens was pointing. These details should be lettered in the negative, thus: "Looking N.E. at S.W. corner Sixth and Locust Streets, K. C., Mo. Camera located fifty feet from lamp post on S.W. corner (or, at S.W. corner). Taken January 15, 1903, by ——." Do not make a print from any legal negative until such data is shown, so as not to burden your mind with remembering these circumstances; lawyers will usually accept such wording and waive a personal appearance in court. It is well not to remember anything except what the negatives show; it will save embarrassment in cross-questioning. Records of these exposures in legal work should be kept in a separate book for easy reference. Charge double the usual prices for this class of work as compared with ordinary negatives. If allowed witness fees, it usually takes more time to collect them than they are worth, so that it is unwise to figure on anything except the price of the negatives and so many prints. One set of prints should have muslin back and top for insertion in the "pleadings."

Copying Documents.

Another class of work requiring great skill is the photographing of indistinct and illegible documents. I recall a case of this sort which took me several hundred miles from home, and the work consisted in photographing two pages of a letter-press copy-book. The copies were in very faint blue typewriter ink on a manila-colored tissue. The work had to be done in the private chambers of the judge before whom the case had come, and I had to make use of what I could in the way of a copying rack. I bought a number of rubber bands and a sheet of white cardboard and put the white card under the leaf, leaving the back of the impression outward as the ink was plainer there than where it came through the paper. The rubber bands were used to hold the page flat and in contact with the cardboard. I set the book up by a window, used a color screen and orthochromatic plates to hold the blue ink, and made my exposures. These gave me reversed negatives, of course. When I arrived home 18 x 22 bromide enlargements made from the glass side of the original negative, gave me a correct transcript in the print. With this bromide, the negative set in a window and a strong reading glass I deciphered each letter and, as I was certain of it, traced it in its proper place on the enlargement. In two or three days' time I had the document correctly figured out so that it could be plainly read. This is expert work and should command a high price.

Furniture.

I have done so much work in this specialty and have become so accustomed to working in all kinds of light that wherever possible I prefer to work at the factory. If I have several windows to work by, I put tissue paper over them and work with the light directly behind me. The walls and ceiling should be white. Work well back into the room and the light will be more even. Use orthochromatic plates and give full exposures, even to the point of overtiming. The lens for this work should not be less than 14 inches focus for plates 8 x 10. The camera should be fixed to look downward on the furniture, so as to give the back edge of seats and couches. Furniture is usually photographed in the "rough," or before it is polished. Generally the firm will have a catalogue to guide you in size and position.

If one is careful in placing the background and works well away from windows, properly prepared, he will seldom have to do any blocking out. Where this is necessary the opaque made by Alvord is extremely useful. It is fine-grained, very soluble, and can be used in a pen for writing on glass or paper and for lettering on the film side of a negative. Use a small butter plate into which put some of the opaque from the pot, adding water enough to thin it

as thin as it will cover. This opaque dries quickly and will never "pull" when going over it a second time. Where fine angles and small parts have to be blocked out a fine-pointed soft steel pen can be used perfectly, putting the opaque on the pen with the brush. If you are working on films and wish to number them, you can do so on the celluloid side, and this is an advantage where one is not an adept at lettering backwards. One way is as easy to me as another. Never use India ink in blocking out, as it will crack when it is dry. It is not necessary to block out the entire negative, as yellow or red cover paper can be cut out and pasted on the negative to cover the parts left from the opaquing. Some photographers make an untoned print carefully cut around the object and fit this on the negative, but it does not equal the other method. To keep your opaque from spreading on the negative and getting on the figure, use a lead pencil, going around the subject; this gives a surface which will repel the opaque. Straight lines can be done with pen and a ruler.

THE SALON OF THE PARIS PHOTO-CLUB.

THE following interesting account of the Salon of the Paris Photo-Club, from the pen of Robert Demachy, the well-known gum-bichromate worker, appears in the *British Journal of Photography*:

The Salon was opened on Saturday, June 16th, by M. Dujardin Banmetz, Ministre des Beaux Arts, and M. Brown, Director of the Fine Arts Department of the City of Paris. Fifteen hundred people visited the Salon between two and six, amongst which many artists and several well-known art critics, such as de Meurville, de la Sizeranne, Bapst, etc.

The English School is represented by sixty-two frames. The standard of this carefully chosen collection is as high as usual, which is saying much, and we are particularly grateful to Mr. Craigie, who brought it together, for having added such an attraction to our Salon. The peculiar scheme of tone adopted by the English pictorialists at the outset has been noticed—not always favorably—by the French public and art critics. It has been partly modified since, and to-day the works of the staunch, or occasional, supporters of the sombre style suffer still more from the neighborhood of pictures of a more modern and vivid character. Mr. Craig Annan unites the two opposite styles, and shows two very different pictures indeed, the "Portrait of Mr. Cunninghame-Graham" and a magnificent piece of color, "The Thames at Hampton Court," whilst Mr. Hollyer with the "Portraits of J. Evans and Mr. Jovey" keeps to his original methods. Six pictures by the Baron von Meyer, an able member of our Photo-Club, are far in advance of what he has hitherto exhibited. Amongst these the portrait of Mrs. Käsebier and an open-air portrait have attracted universal attention. Mr. Crooke sends a fine portrait of Miss Leslie St. John, Mr. Horsley Hinton two large landscapes, in his well-known and suggestive style, "Rylstone" and "Airedale," Mr. Holding, a well-balanced group of figures, "Music." "La Seine," by Mr. Latham, is an impressive view of Notre Dame de Paris. Mr. Latham, I see, has not been able to scuttle the big lighter in the foreground. I know that lighter, and its obstinacy, well, and can sympathize with the author. A pretty symphony in gray, by Mr. W. Cadby, and an excellent portrait of a lady, just right in definition and values: from Mrs. Cadby, Kipling's cat—but one would have liked to see the sulky back of the unsympathetic brute silhouetted against some lonely perspective of tall, straight trees—this from a literary point of view. Mr. E. Calland's "Freeman's Wharf" is essentially French in treatment (Mr. Calland may or may not take this as a compliment!). It is a striking example of the effect that

may be extracted from otherwise uninteresting materials by a clever opposition between blacks and whites, a careful rendering of values, and the choice of a pleasing and artistic medium. "Mater Amabilis," by Mrs. Barton, is a well-composed group, for Mrs. Barton knows how to place her figures, but we do not find in this picture, nevertheless full of sentiment, the admirable quality of flesh texture that strikes us in "St. Ursula," by the same author—a fascinating composition in the simple, naive style of the primitives—all but the hose of the model, which has a suspicion of modern sauciness. But the hand is a picture by itself. Further on a delicate sketch by Dr. Evershed, "La Grue et La Bruine;" the Bank of England tour de force by Mr. Craigie, a clever piece of work full of dignity and individual expression; a sunlight effect by Mr. Blake, well thought out and finely treated; and two excellent landscapes by Mr. Moss. Mr. Barnett's interesting work reminds us of that of Mr. Crooke—reduced. His photographs have a steel-engraving quality that is most pleasing. The hand in "Joan of Arc" is worth studying, but—here is a case for the Puyo-Pulligny anachromatic lens—Mr. Charles Collett's nose and his ear partake of strikingly different foci!

Further on: "Mount St. Michel," by Mr. Cochrane. May I timidly suggest an improvement to this powerful apotheosis of one of the marvels of Brittany? I know the Mount well, I have visited it seven or eight times in the last fifteen years, and have been able to witness the decline and fall of Madame Poulard's cooking—proportional to the ever-increasing invasion of the most hideous herd of French provincial tourists I have ever met. Now I feel obliged (notwithstanding my admiration for Mr. Cochrane's talent) to admit the truth of certain criticisms I have gathered from the remarks of our more enlightened visitors. It has been said that in Mr. Cochrane's picture Mount St. Michel "looks small." And I think the cause of the dwarfing of the motive lies in the enormous size of the white cumulus that forms a background to it. Would Mr. Cochrane try a more horizon-like style of cloud as a setting to the far away pyramid of rock and hewn stone—just as an experiment? By the same author "The Barrel," an excellent piece of work with oily transparent browns. Mr. Keighley's pictures are always remarkable in composition and full of sentiment. "The Shepherdess" and "The Halt" are good examples of the artist's personal manner; but he is undoubtedly at a disadvantage with his neighbors at our Salon on the score of the medium he has chosen, which does not seem to allow of accents or different treatment of different textures. Many of the English, and several of the American exhibitors appear to take little or no interest in this matter. Perhaps on the other side the Frenchmen give it undue importance. Nevertheless, Mr. Keighley's work has been greatly admired. So has Mr. Mortimer's, whose poetic rendering of the more wrathful moods of the ocean is quite unequaled. His pictures have been particularly noticed in several of the leading papers.

The English exhibits are hung together on the central panel of the left side of the room, and on the two adjoining panels between the Photo-Secession and the Belgian exhibition, in excellent light.

Amongst the thirty-five pictures sent by the Photo-Secession we find six by Mr. Alvin Langdon Coburn of very high quality. The portrait of Bernard Partridge has attracted quite special notice from the French artists, with the splendid effect of sunlight and reflected light in "Wier's Close," Edinburgh. There is a gamut of light and shade in this simple picture that gives a rare satisfaction to the eye. Six striking contributions in monochrome and color by Mr. Steichen, several by Mr. Clarence White, amongst which the "Flute de Pan" has been specially noticed. Mr. Stieglitz shows a fine study of horses and "The Canter," a picture full of suggestive atmosphere; Mrs. Käsebier, six pictures which are excellent examples of the extraordinary versatility of the talented author; Mr. Frank Eugene, two prints from etched

negatives, of a very peculiar quality. The whole collection is of a very high order, and maintains the well-deserved reputation of the American school.

The Belgian School, after a momentary eclipse, asserts itself anew. Messrs. Misonne, Leys, Wetrems, and several others show more than promising work. Spain, who seemed to be quite out of the race up to now, is represented by Messrs. Carlos Fingo-Pisacca and Mabit, who are laying the foudation of an interesting school. From Italy we have some delicate work by M. Guido Rey, and some good things by Messrs. Ciutto, Licino, Farini and Alfredo Ornano. The Latins are awakening.

Amongst the French exhibits the most noticeable are those of Major Puyo. monochrome and in colors, of Mlle. Laguarde, Geay, Dubreuil, Grimprel de Bègue, Besson, Bucquet, Manry, Dillaye, Sollet, Mlle. Massion, M. Hachette. The two last exhibitors show excellent examples of the Rawlins process. Bromide is nearly extinct in the French section—platinum is rare, most of the pictures being printed on pure gum bichromate, or so-called ready-made gum bichromate papers such as Fresson, Artistique, Hocheimer, or Artigue papers. Three exhibitors have adopted the oil process and many more will take it up later on. On the whole the exhibition is good—not so select as the Photographic Salon, for its purpose is broader and tends towards encouraging rising talent, but undoubtedly superior to last year's show.

QUALITY OF DEFINITION.

THE main aim of all photography, which is not undertaken for purely diagrammatic purposes, is to portray on a flat surface an object which possesses length, breadth and thickness should never be forgotten; and the quality of the definition in the various planes of the picture can be made to play an important part in producing an appearance of solidarity. The eye, attracted first by the sharpest area of definition, may roam over the whole photgraph, but will return again and again to the clearest part. If the whole is evenly defined there will be no rest for the eye, and the interest, which, but for the fact that all is sharp, might have been riveted upon some salient feature, will be dissipated. Comparison between the "regulation" vignetted bust of some years back and a photgraph by a modern artistic worker will emphasize the point. In the former case, whether it be the carefully arranged curl on the forehead of the sitter or the fifth waistcoat button, the definition will be so equal and brilliant throughout that one is tempted to think that the photograph is intended for a fashion plate to show the latest cut of waistcoat or the newest method of hairdressing. At best the result will be but a travesty, and destroy all traces of personality. Now, consider a second photograph, that of a man past the prime of life, with iron-gray hair and furrowed brow; notice the gleam of light on the hair, the softly marked wrinkles telling of a life almost lived out. These have not been carefully removed by the soulless retoucher; the shoulders are softly defined, sufficiently so to suggest the stoop, while the old-fashioned stock, hardly discernible, forms a mere accessory to complete the picture. The quality of definition is soft, yet equal over the different planes of the head, the nose and chin are not unduly large, or the forehead dwarfed by the use of a short focus lens.—*Beck and Andrews.*

ONE thickness of sound "canary medium" in front of gas, lamp, or electric light is safe enough for most bromide papers. Two thicknesses are necessary if daylight is the illuminant.

COLORED MINIATURES.

AMONGST a certain class there is a steady demand for colored photographs. A recent number of the *British Journal* gives to those who are seeking a method of preparing colored miniatures the following hints: All that is necessary is a good clear print, of the required size, in gelatino-chloride, unmounted. The coloring is very simple, and could be done by the "reception room lady" after a few lessons. The colors needed are only three, red, yellow and blue aniline dyes, but they must be colors that will mix. Red will usually combine with either of the others, but some samples of blue and yellow will not combine to form a green, but precipitate one another to a muddy mass at the bottom. But any of the firms who make a special feature of dyes will supply a yellow and blue that will combine. Having procured these three colors saturated solutions should be made. The print needs no preparation except wetting; the surface moisture is removed with a clean cloth and the print is ready. A little of each of the three colors is poured out into separate saucers, and with a clean brush a little red is put into a clean saucer and considerably diluted, and a small proportion of yellow added, to form a flesh tint. It should be tried on a waste print. The brush is well filled with color and mopped over the face, and almost at once the color on the surface is wiped off with a piece of clean soft rag, rather moist, which is held in the left hand ready to take up the surplus color. The tint left on, or rather in, the print will perhaps be too pale after only one application, and a second or third application of the brush may be necessary, always followed immediately by the clean rag. Any color that is needed can be obtained by mixing the three colors in different proportions. For small parts, such as the lips and eyes, a fine sable should be used and the color should be less diluted. It is surprising what pretty effects can be secured by these simple means, depending on the taste and skill of the wielder of the brush. After the coloring of the print is finished it should be allowed to become "bone dry" before doing anything more with it. It will have an unfinished appearance and needs to be glazed; this may be done in several ways, by cementing it upon a piece of celluloid, as recommended for "photo-buttons," or it may be attached to the inner side of the glass of the locket it is intended to fill, with a little warm gelatine solution, or it can be enamelled by squeegeeing down upon a piece of clean French-chalked glass, or waxed ferrotype plate. If the print is thoroughly dry after coloring, it may be moistened for enamelling without fear of the colors running, but it must not be left soaking too long or the colors will be washed out.

BROMIDE POINTERS.

PRINTS below whole-plate size can have the developer poured straight on,. without preliminary washing.

PRINTING should, as far as possible, always be carried on by the same light if uniform results are required.

AFTER removing one sheet from a packet of bromide paper always replace the remainder before doing anything else.

PRINTS over whole-plate size should be well soaked in plain water before development, and all air-bubbles carefully removed.

IF the paper is not of required size, it should be cut with a pair of scissors, and not folded and torn, as this leads to markings.

AMIDOL when used with stale sulphite of soda solution develops very slowly, and there is a loss of brilliancy in resulting print.

THE sensitive side of bromide paper is the side that curls inwards. If in doubt nip the corner of the sheet with the teeth. The film side will adhere.

The Professional Photographers Society of N. Y.

THE Free Employment Bureau began operations on July 1st and is now in good working order.

Employees in any locality may register entirely free of charge. Use the application blank given below and do not forget to fill out the "locality" line.

Members of the P. P. S. of N. Y. who wish to communicate with employees listed in this column should write to Pirie MacDonald, 141 Broadway, New York. Names will be furnished free of charge.

The lists of the Employment Bureau are sent only to members and associate members of the Society.

7—RECEPTIONIST, Lady, age 23, single. Salary, $20. East. Unusual ability.

8—RETOUCHER, Lady. Crayon, Pastel, Watercolor Artist. Six years' experience. Age 24 years, single. Salary, $15. Prefers Indiana, Illinois, Iowa, Ohio or Wisconsin.

9—RETOUCHER. Assistant Operator. Age 26 years, married. $20 salary. Ten years' experience. Perfers N. Y. City.

10—RETOUCHER, Lady, Watercolor, Sketch, Platinum, Mounting, etc. Prefers N. Y. City.

11—RETOUCHER, Receptionist and Spotter. N. Y. or Brooklyn only.

12—PRINTER, Retoucher, Dark-room work.

13—ALL-AROUND MAN. Summer resort.

14—RETOUCHER.

15—RETOUCHER, Platinum Printer.

16—RETOUCHER and Operator. Age 27 years, single. Salary, $18. Summer resort.

17—MANAGER-RECEPTIONIST Operator. Age 38 years.

18—GENERAL WORKMAN and Good Retoucher. Age 32, married. Seventeen years' experience.

19—RETOUCHER, Air Brush Assistant Operator. Age 30 years. $20 salary. New York or Brooklyn preferred.

20—OPERATOR-RETOUCHER, 10 years' experience. New style work. Salary, $35.

21—ALL-AROUND MAN, Retouching, etc. Salary $14.

23—ALL-AROUND MAN. Age 30 years. New York or Brooklyn.

24—PRINTER. Single. Age 22 years. New York State preferred. Salary $15.

25—OPERATOR and PRINTER. Single, 9 years' experience. Salary $15. Any place but State of Pennsylvania.

26—OPERATOR, Printer and Dark-room man. Expert in flashlight. Portraits his specialty. Age 28, single. Salary $18.00. 11 years experience,

27—PEN and Ink Artist. Single. Salary $8.00. Locality, New York.

28—MANAGER or Assistant Manager. Proficient in all branches. 25 years experience. Married, 40 years old. Salary $30.00 or $35.00.

Members of the Society who attend the National Convention at Niagara will find a special room set apart for their especial use.

EMPLOYEES' APPLICATION TO THE FREE EMPLOYMENT

Bureau of the Professional Photographers Society

OF NEW YORK

Fill out the blanks and send to Pirie MacDonald, Pres., 141 Broadway, New York.

*Name*_____ *Permanent Address* _____

Age _____ *Married or Single*_____ *Salary per week*_____

*Desires position as*_____

*What locality do you prefer working in?*_____

*Employed last by*_____ *from*_____ *to*_____

*Other experience and references*_____

It is hereby agreed that I will at once notify this Bureau on acceptance of a position, whether obtained through the Bureau or not.

THE C. P. GOERZ SILVER-CUP COMPETITION.

THE C. P. Goerz Optical Works of New York take pleasure in stating that they have offered to the professional photographers of the United States and Canada a silver trophy, in the form of a cup, of a value of $600 on the following conditions:

1. The silver cup will be offered as a prize to the successful competitor who shall have the award twice in succession or three times in all.

2. Each successful competitor, except the final owner of the cup, will be presented with a prize of One Hundred Dollars, payable in gold or in goods of our manufacture, at his option.

3. The competition is open to all *bona fide* professional portrait-photographers of the United States and Canada.

4. Portraits only are accepted in this competition. Subject, size, kind and number of prints are entirely at the discretion of the competitor.

5. Every photographer desiring to compete is invited to send in his name to the C. P. Goerz Optical Works, and will receive in return a number with which he is to mark his picture or pictures. Should any competitor send in more than one picture, then each one must be numbered, and marked with the letters *a*, *b*, *c*, etc., in addition to the number.

6. The pictures sent in for competition will be exhibited at the National Conventions of the P. A. of A. by the C. P. Goerz Optical Works, who, for that purpose, bind themselves to rent adequate space in the coming conventions.

7. All competing pictures are to be mounted and suitably framed.

8. The prize-winning picture will become the property of the C. P. Goerz Optical Works. Copyright, if any, remains vested in the competitor.

9. No picture having won a prize in this competition can be entered a second time.

10. All successive awards will be made during the Exposition of the National Conventions of P. A. of A. All competing pictures, marked in accordance with rule five, are to be sent prepaid to C. P. Goerz, care National Convention, or, before opening of same, to C. P. Goerz Optical Works, 52 Union Square, New York.

11. The C. P. Goerz Optical Works will name a jury of well-known members of P. A. of A. to pass on the merit of the pictures sent in, and to make the award. The names of the jurors will be announced a few weeks prior to the meeting of the convention.

12. The jurors will award the prize to the picture considered by a majority of them to possess the highest artistic value, combined with the most perfect technique.

13. The jury, on having made its award, will inform the donor of the number of the winning picture. The donor will thereupon compare the number with his list of competitors, and attach to the successful picture the name of the winner, and the mention of its award.

The number-list, being a confidential document, shall not pass out of the hands of the donor or his representative. The names of unsuccessful competitors will not be published without their special consent.

14. The decision of the jury, or of a majority of its members, is final and binding for all parties concerned.

15. The cup will be exhibited at the yearly National Conventions of the P. A. of A., and arrangements will be made to exhibit it also in the principal cities of the United States and Canada, for which purpose the kind co-operation of dealers is earnestly requested.

16. The cup will be engraved at the expense of the donor with the name of the successful competitor and the year of his competition, immediately after the award has been made. The winner will then be entrusted with the custody of the cup for the ensuing year. He will be held responsible for its safekeeping, and shall return it to the donor for the next competition one week before the opening of the following National Convention, unless it becomes his full property in accordance with the terms of this competition.

For further information and particulars, address the C. P. Goerz Optical Works,, L. J. R. Holst, New York, July, 1906.

NEW GOODS AND SPECIALTIES.

THE photographer has a wonderful selection of goods and apparatus to select from when he goes into the market to buy. The new catalogues offer an endless list of attractive lines of specialties and many novelties are listed and we hear of some novelties that are to be introduced at the National Convention.

THE well-known house of Geo. Murphy, Incorporated, of New York, have just issued a catalogue that is well worth the title encyclopædic, and has the appearance of having been gotten up at considerable labor and expense. It is a broad and comprehensive catalogue of all the standard lines of photographic goods.

Undue prominence is not given to any special lines, but everything for the photographer's use is listed and described in detail.

The index enables you to locate with ease and rapidity anything from the humble push pin to the high-grade studio lens. It is a good list to have on hand. Send ten cents to cover the postage and put a copy on your desk.

THE Rough & Caldwell Co., of New York, so long known as makers of first-grade backgrounds, has recently been reorganized. They have moved into a new studio and shop and have made arrangements for the production of many new designs and accessories with some new art effects in interior landscape and head grounds.

The new styles of accessories and new effects in backgrounds will be exhibited at the National Convention.

THE Rotograph Co. have issued a new paper, a collodio-chloride print-out paper of exceptional quality. The manufacturers lay stress on the purity of the base on which this new C.C. coating is made which guarantees the permanence of the print. Beautiful tones can be obtained by the use of a single platinum bath.

THE New Color Process Carbon Tissues recently put on the market by The Autotype Co., of London, for whom George Murphy, Inc., New York; Burke & James, Chicago, and Hirsch & Kaiser, San Francisco, are agents, give the photographer who is working this process unlimited scope in the production of carbon prints, there being no less than thirty-five colors to select from. As the price of platinum advances the carbon process is bound to come in for a much more extensive use.

IN the above and Elliott's (London) famous carbon tissue, for which G. Genvert, New York and Chicago, is the sole American agent, the photographer has the finest carbon tissues the world produces, and if he fails to get good results the blame cannot be put on to the paper. The brands named are not excelled.

IN the Heliar, the Voigtlander & Son Optical Co. (New York) have produced a carefully corrected anastigmat lens, combining the speed of the old-style portrait lens with the sharpness of definition, flatness of field and compactness of the modern anastigmat.

Heliar lenses are excellent for portraiture, because of their speed, covering power and brilliancy. In short studios they are exceptionally valuable and for high speed instantaneous work with the focal plane shutter they are hard to beat. Another good feature is their price, which is very reasonable.

SPEAKING of the focal plane shutters reminds us that the well-known Thornton Pickard focal plane shutter, for which Andrew J. Lloyd & Co., Boston, Mass., are the American agents, is still maintaining its lead as one of the best and most popular focal plane shutters on the market.

REGARDING the agency for the Ross Lenses, which we mentioned in our last issue, we learn that Geo. Murphy, Incorporated, has now on hand a very complete line of these famous lenses and is prepared to take care of all inquiries. The Homocentric, the latest product of the Ross factory, is the only anastigmat that is perfectly corrected for zonal aberration and gives minute definition through all the planes.

It has qualities found in no other portrait lenses and has been aptly described as a new money maker for the photagrapher.

THE increasing use of artificial light for everyday portraiture, enabling the photographer to disregard weather conditions, is bringing out the wonderful qualities of the Aristo Studio Lamp. The last issue of the *Aristo Eagle* is illustrated by photographs from the studio of Mr. George G. Rockwood, who uses three of the lamps in two of his studios. Mr. Rockwood says he prefers the Aristo Lamp to sunlight. He has operated with the latter long enough and ought to know their respective values.

REFERRING to the Century Grand Studio Outfit one of our correspondents wrote: "It certainly is a beauty and a marvel of convenience and comfort to the operator. I don't know how I ever got along without it." We recently had an opportunity of operating one of these splendid outfits at the Milton Waide School of Photography and fully endorse all our correspondent had to say of it. We are not surprised to learn that the Century Camera Company have trouble to keep ahead of their orders for this specialty.

AN indispensable adjunct to a good studio camera is a portrait lens and it cannot be too good. The Bausch and Lomb-Zeiss Portrait Unar is a lens that can be used for either portraits or groups and give equally good results with either.

THERE is no doubt but that the picture postcard idea can be turned into a money making proposition by the live photographer. No community is too small to have its series of picture post cards, showing off the local interesting buildings.

Photographers having good negatives should get into communication with the Albertype Co., of Brooklyn, N. Y., well known for their gelatine reproduction processes. The cards and souvenir views made by this firm are much superior to the usual half-tone views and are good and profitable sellers.

THE H. A. HYATT SUPPLY CO., of St. Louis, Mo., recently sent us a handsomely engraved invitation to attend the session of the Aristo School of Photography. We learn that many photographers availed themselves of the invitation and got much valuable help and information from the able demonstrations of the proper handling of Aristo paper.

The idea is a good one and will help materially in the securing of twelve perfect prints to the dozen.

AN IMPROVED AIR-BRUSH. We learn that Mr. L. Walkup, the original inventor of the air-brush, is about to place on the market a new and very much improved air-brush, to be called the Air-Brush Sprayer. It will be of considerable advantage to the photographer who desires to cover large surfaces with a spray that can be worked both rapidly and finely. Full particulars can be obtained from L. Walkup, Rockford, Ill.

EDITOR'S TABLE.

MR. SIDNEY ALLAN (Sadakichi Hartmann), well known to the readers of this magazine for his racy monographs on well-known photographers, has been engaged by the Carnegie Art Institute, Pittsburg, for expert services, to assist the director in making a collection of Japanese color prints and a collection of original drawings by American artists.

FROM the studio of Mr. R. Goebel, St. Charles, Mo., we received a picture post-card showing the exterior view of an attractive studio building, with a portrait of Mr. Goebel in the corner of the card.

The get up is good and the card makes a first-class advertisement. We often wonder why the photographer does not use his camera much more than he does for advertising purposes.

"THE VELOX BOOK.—The Working of a Simple Paper Told in Simple Terms," is the title and sub-title of a very handy little guide to Velox printing, just issued by the manufacturers of the most popular gaslight paper.

The way to get perfect prints and to avoid failure is so clearly laid out that it will be an impossibility to produce a bad print if the instructions are followed.

THE latest edition of the *Photo. Beacon Exposure Tables* is easily the best and simplest form they have yet reached. By simply adding the numbers for subject, stop, light, month, hour, and plate, you have the correct exposure in the table in very much less time than it takes to tell. Exposures from one-thousandth of a second to three hours are figured out instantly. Printed in red and black. Price, twenty-five cents. The Photo Beacon Publishing Co., Chicago.

WE regret to announce the death of Mr. Andrew J. Lloyd, senior partner of the firm of Andrew J. Lloyd & Co., Boston, Mass., which took place on June the 14th.

Mr. Lloyd has been actively engaged in the photographic supply business for the last twenty-seven years. His genial disposition and hearty personality will be missed by all who knew him. He was a man of sterling business integrity. The business will be carried on by the surviving partners.

IN the death of Mr. A. H. Wall, of Stratford-on-Avon, one of the links with the earliest days of photography is broken. Mr. Wall made Daguerreotypes as far back as 1850. In 1864 he published *The Art Student*, a bright little illustrated magazine that was ahead of its time, and later the *Illustrated Photographer*, another magazine that was before its time.

MILTON WAIDE, Director of the Metropolitan School of Photography, asks us to inform photographers who may visit New York, and camera users generally, that the dark-rooms and other conveniences of the school are entirely at their disposal.

This is a convenience that will doubtless be appreciated by many photographers when traveling this way.

THIS is convention time over in England as well as on this side. The 21st annual meeting of the Photographic Convention of the United Kingdom is being held as we write. The meeting takes place at Southampton, July 9 to 14.

A lengthy program of excursions, yachting parties, receptions, musical promenades, etc., indicates that the English photographer in convention assembled is out for pleasure.

MANY photographic workers are troubled with irritation of the fingers by certain chemicals used in photography. The trouble can be avoided by the use of rubber gloves, but it is very difficult to handle prints with the gloved fingers. The most practical way out is for those who are subject to the irritation to employ other chemicals in place of the objectionable ones, or to use an application to the fingers which will overcome the trouble. Many photographic workers have learned how to avoid this irritation in their own work, but there is no general source of information on the subject.

By A. T. Proctor, Huntington, W. Va.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. SEPTEMBER, 1906. No. 597

THE NATIONAL CONVENTION.

Niagara Falls, N. Y., August 7 to 10 inclusive, 1906.

The Twenty-sixth Annual Convention of the Photographers' Association of America was held in the Cataract Hotel, Niagara Falls, N. Y., August 7th to 10th, inclusive, under the presidency of Charles Wesley Hearn, Boston, Mass.

The following is the official stenographic report of the proceedings.

FIRST DAY—MORNING SESSION.

The convention was called to order at 10.15 A. M., President Charles Wesley Hearn in the chair.

President Hearn: If there are any ex-presidents in the hall, will they kindly come forward and take seats upon the platform? Surely they should not neglect a duty like this.

(Past Presidents John S. Schneider, George G. Holloway and J. George Nussbaumer take seats upon the platform amid applause.)

President Hearn: We will now have the pleasure of hearing from the Hon. O. W. Cutler, the Mayor of Niagara Falls. (Applause.)

Address of Welcome by Mayor Cutler.

MR. PRESIDENT, OFFICERS AND MEMBERS OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, REPRESENTATIVES OF ALLIED INTERESTS, LADIES AND GENTLEMEN: Perfectly sensible of the great compliment paid me and the obligations incurred when one year ago in the city of Boston you accepted my invitation to meet in Niagara Falls at this time, I extend to you a most cordial welcome and a most hearty greeting. Since last I had the pleasure of facing you another year has indeed passed, but in looking into your faces I am satisfied it has been one of health, prosperity and happiness to you, and let us hope all the years to come may be as happy. The year has passed altogether too quickly, perhaps, for those of us who are on the shady side of forty, but none too quickly, I assure you, as affording me the privilege of realizing my fondest anticipations in the enjoyment of your society, for while probably I am the happiest person in this city, I can assure you that our citizens generally have looked forward with great pleasure to your coming, for I have again and again told them what a good lot of people you are.

But here you are, in convention assembled at the world-renowned Niagara Falls. Your purpose in coming here I have no doubt is three-fold: First, to transact the business of the convention; secondly, to renew and enjoy old friendships and make new ones; thirdly, to enjoy the beautiful scenery with which this locality abounds, and who on earth are better qualified, on account of the taste and culture which you possess, to enjoy this scenery than yourselves? I trust that you will make the most of this opportunity. I hope each one of you will take home with you a view of the place to exhibit in your studios, that you may contemplate it in your leisure moments and that it may serve as a refutation of the senseless lies which have been told about us by yellow journalists, to the effect that through our greed and commercialism we have drained Niagara Falls almost dry, and unless they can have their way and be allowed to interfere in

our affairs it will be but a short time before there will be no water whatever coming over the falls. As a matter of fact there is more water coming over the falls to-day than ever before, and you can do much in allaying the unrest and the apprehension of very many good people who have been deceived in the manner I have indicated.

You all know this is historic ground along the banks of this river. Upon this side, from old Fort Niagara at its mouth as far as Buffalo, its entire length, many a bloody battle has been fought in which the French and English and Americans were engaged and in which the Indians were involved. On the bank of this river but a few miles above here was built and fitted out the first vessel which ever plied upon the Great Lakes. Just across the river is the battle ground of Lundy's Lane, and further down the river and over which you will pass if you take the Belt Line trip, which you doubtless all will, is also the battle ground of Queenstown, upon the heights above which stands the beautiful monument erected to General Brock, commander in that engagement, wherein he fell.

Niagara Falls is noted for many things. Among other things it has become renowned during the last few years as being the site of the most wonderful and gigantic hydro-electric development the world has ever witnessed. It is also noted as being the honeymoon city. I apprehend that all of you came here on that joyful occasion. I trust you will, while here this time, live over again those felicitous moments, that you will become satisfied that you made the best choice ever, and that you will again plight each to the other your troth. (Applause.) It occurs to me that, as I recollect certain symptoms and certain germs that were discernible respecting certain young couples at Boston last year, germs of that disease which knows no curing until two hearts are made to beat as one, it occurs to me that this would be a very opportune time and place for the consummation of some event or events of that kind. (Applause.) Here is the ideal spot for you to spend your honeymoon, here are hundreds of your friends to witness the ceremony (Laughter), here stands the Chief Magistrate of the city, clothed with the requisite authority only too ready and willing to perform the ceremony. (Laughter and applause.)

On account of the lateness of the hour, and being informed by your worthy president that everything should go through on schedule time, I feel it to be my duty to cut my address short, and if I can make the point clear to you that you are welcome in the city I will be content.

I trust that every minute of your stay here will be pleasantly ocupied and that nothing will happen to cause a single ripple to arise upon the sea of pleasure upon which you have embarked, but if anything should, I beg of you not to hesitate to approach the Mayor, and I feel as if I will come pretty near straightening it out.

I thank you very much for your attention, and again I say to you thrice welcome to our city. I hope you will stay here delighted, and depart regretfully. (Applause.)

President Hearn: We will now have a few words from Mr. Nussbaumer in response to the very kind invitation which we have received.

(Ex-presidents Gustav Cramer and E. B. Core take the platform and are greeted with applause.)

Address of Ex-President J. George Nussbaumer.

MR. PRESIDENT, MR. MAYOR, LADIES AND GENTLEMEN: I don't know whether the Mayor made his remarks in regard to my oratory in a kindly spirit or not, but his friends have certainly taken care of me. They assigned me for the anvil chorus last night, and "we are here because we are here." (Laughter and applause.)

We have heard of the proverbial Southern hospitality, and this morning we have also heard of the Niagara Falls hospitality. "If you don't see what you want, ask the Mayor for it; if you see anything you want take it away with you." Now I am sure nothing could be more generous than that.

I think the Mayor, when he mentioned the reasons why we came here and said that first we came on a matter of business, got it a little twisted. I believe that first we came here to renew old friendships, old acquaintances. I rather put that first because I believe that the gentlemen and ladies here really appreciate the old friendships that have been established for years, enjoy meeting each other on a common ground where they have common interests, and I believe that the idea of coming and making new friends here is an incentive to come to these conventions, and I am sure that we all enjoy them in every way. Of course we don't lose sight of the main point, the principal point in these things that has been mentioned by our friend Hearn. He has outlined for us a business convention. He wants to make us more wealthy, more prosperous in every way. He wants to give us an incentive to be something, to occupy a position in the world's affairs, and I was reminded of a little epitaph written on a tombstone in an old English churchyard. It goes something like this:

"Beneath this stone, in hopes of Zion,
Lies the landlord of the Lion,
Resigned unto the Heavenly will,
His son keeps on the business still."

(Laughter.) So we are here this morning to enjoy ourselves, to renew our friendships, to do all that is pleasant, to show the people of Niagara Falls that we are pleasant congenial people, to accept everything they have to give us; but still we have the idea of business in mind—we have the real idea of improving our minds, of acquiring something that is going to help us in our business, something that is going to be useful to us in making pictures, in acquiring the dollars, in making people think that photography is a dignified profession, and that we are to be considered in this world's affairs.

This is an age of fraternity. If we have something that our brother hasn't got, we should have that fraternal feeling of being willing to give that to our fraternal brother. I tried to think why it was that the Mayor was so hospitable, why it was that he was so clever in welcoming this convention, and I happened to think, "Well, he is a joiner. He knows how to do it. He knows how to give them the glad hand. We have heard that he has ridden the goat, he has crossed the hot sands and hung on to the rope and all those things, and that is where he gets those stunts, you know." (Applause.) He said that possibly I knew him. Well, I have heard tell of him, and for that reason he tells you about himself. He didn't want me to say anything about what he could do, or what he was going to do, but I know that he had that fraternal feeling about the thing that he knew you were here in convention assembled to give your brothers here the benefit of your knowledge about the business.

I don't know of anything else I can say this morning that will add to our appreciation in this matter, but I want to assure the Mayor that we have the capacity for enjoyment, and we have the willingness to be entertained, and I want to assure him that we will be just as glad and thankful to him, and I want to thank him for his most hospitable invitation. (Applause.)

Mayor Cutler: I want to trespass upon the time of the convention for just one moment, to make my acknowledgment of this beautiful badge which you, Mr. President, were kind enough to decorate me with this morning. I want to say I accept it with the same spirit with which it is given. I know I am unworthy of such distinguished and such conspicuous recognition, and I assure you I will wear it with satisfaction to myself at least during this convention, and that after you have gone away and I am very sad, I shall often take this badge out and look at it. It will bring to me pleasant memories, and I hope it will serve as an additional inducement for me to indulge the hope that I may have the pleasure, as I almost now feel obligated to do, to attend your next year's convention and every one of your conventions, thus affording me an opportunity to cultivate and enjoy the friendships and the comradeships which I am satisfied now exist between many of your members and myself. (Applause.)

President Hearn: I should like to tell our members that this badge is a very handy thing for you to know where it is. This is our Mayor of Niagara Falls, now, and if you get in any trouble the Mayor will take care of you. (Laughter.) We have elected him to that place, and he is our Mayor to look after us.

The reading of communications by the Secretary is next in order.

"Boston, Aug. 5th. C. W. Hearn, Prest. P. A. of A., Niagara Falls, N. Y. Regret exceedingly I cannot join you at this time. The best wishes for the success of the association and this coming convention. Geo. H. Hastings."

"Springfield, Mass., Aug. 7, 1906. President C. W. Hearn, P. A. of A. Convention Hall. Please accept best wishes for a great and profitable convention. George H. Van Norman."

"Crown Point, Ind., Aug. 6, 1906. Mr. C. W. Hearn, President P. A. of A., Niagara Falls, N. Y. My dear sir: Without going into detailed reasons, I regret deeply my inability to be present at this, your National Convention. Permit me, however, in the name of the Indiana Association (as its President-elect), to wish you a most enjoyable and profitable meeting, and as the Hoosier Association, we extend a most cordial invitation to any and all of our craft to meet with us at Winona Lake at any of our future meetings, having, as we believe, features of national interest and importance. Believe me to be yours sincerely, W. E. Vilmer, President-elect, I. A. of P."

President Hearn: The address of the President will be postponed until the last thing.

I have the pleasure of introducing to you a gentleman who is well known to all of you, a man who stands for the highest

ideals in art, who has high ideals in all things, who puts into everything he attempts a great deal of earnestness and energy. I have engaged him to present to you several matters which will develop during the course of his discussion. I have the pleasure of introducing to you Mr. Thomas Harrison Cummings.

Address by Mr. Cummings.

MR. PRESIDENT, MEMBERS OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, LADIES AND GENTLEMEN: Being invited twice in succession to address this body of distinguished men and photographers of America is indeed an honor which I deeply appreciate; to be invited to address you upon so congenial a theme as Professional Portraiture in the United States, as I am announced to do in your program, is doubly agreeable because in my capacity as an editor of a photographic magazine I am permitted once more to look into your faces and to voice for you, so far as in me lies, the hopes and aspirations of your profession.

I am only an editor; I am not a photographer and member directly connected with the profession, but sometimes it is well to have a different point of view given, and we editors, after all, are human; we have failings. I am reminded of a story which I heard the other day of one of my fraternity, a photographic editor of this country who dreamt he had just died and was on his way to Paradise. Of course it could only be a dream, because no photographic editor could ever hope to reach Heaven on a limited express without making a stop somewhere. (Laughter.) So this particular editor stopped off at the lower regions to look in there, and there he saw a lot of people suffering excruciating torture. He turned to the angel who accompanied him and asked him what these people had done that they were suffering the torments of the damned. The angel replied that these people were all photographers who had neglected to subscribe to a photographic magazine in their lives. (Laughter.) Looking a little further he thought he saw some familiar faces: there were a lot of people all bunched together, tagged and labeled, "Delinquent subscribers," and they were suffering the torments of the damned; they were boiling and seething just like a bunch of asparagus tips in a boiling pot. He asked the angel who these people were, and the angel said those were subscribers who had neglected to pay their subscriptions. "Well," said the editor, "I am done. This is heaven enough for me. Those guys are getting all that is coming, and it is coming their way good and hard." So he said to the angel, "You go along up and tell Saint Peter that I am content to stay here. This is all the Paradise I want." And the angel took him by the shoulder and shook him, and just then he awoke and found that it was all a dream, and he said, "Only to think that I had to die to see this, and that I didn't collect from those delinquent subscribers before I woke up. (Laughter.)

Now, as I have just said, you can see we editors have feelings. I probably can begin my story this morning perhaps in no better way than by quoting the two lines from Bobby Burns that you are all familiar with:

> "Oh, would some power the giftie gie us,
> To see oursel's as ithers see us."

I am announced to speak to you upon Professional Portraiture in the United States. The stream is no higher than its source. The photographer is no better than the people whom he serves. Twenty years ago the average layman in America knew little about Art and less about Photography, while the average professional was about on the same level. But to-day, thanks to the magazines, the facilities of Fine Art Museums and the elementary study of Art in the public schools, the public has acquired a larger conception of the possibilities of Art and the photographer, a new insight into the strong and beautiful ways of Photography. Yet not until he becomes creative, that is, expresses himself what he thinks and feels in an individual way in his pictures, does he begin to use his art in the highest sense.

Nothing is of any value in this life except that which you create for yourself, and no joy is joy save as it is the joy of self-expression. When Napoleon decreed that every child in the schools of France should be taught to draw, he gave such an impetus to the artistic life of France that, in this respect, no nation has since approached her. Today the Paris Salon is the highest authority on art matters in existence, while the artists of the world pay tribute to the genius of the great French nation by going there for their inspiration and enrolling themselves for study under its great masters. When, twenty-odd years ago, the Prang system of art study was introduced into the schools of Boston, the first serious step was made towards popularizing the study of art in America. Later it spread over the whole country, and the progress since then has been continuous and rapid. We, the children of those days, are the men and women of to-day. Many of us understand and appreciate the beauty of line, value of composition, pose, light and shade in pictures. Our standards are higher than ever before. This explains perhaps why the average professional photographer finds it more difficult to win success in his profession to-day than it used to be, because the public which, after all, fixes the standards for the professionals, is more fastidious and more exacting. The moral should be plain to every photographer honestly ambitious

of success. He should likewise equip himself to study art. He should lead, not follow; and this lesson above all others should be emphasized at this convention, despite the fact that this is promised to be a commercial convention.

I am announced to speak to you to-day upon Professional Portraiture in the United States. It is a singular fact, though not often commented upon, that, though Photography as a scientific process was discovered in Europe, its application to portraiture was first made in the United States and by a citizen of our own country. Daguerre in France, and Fox Talbot in England gave their experiments to the world in the fall of 1838, and in the spring of 1839, respectively, and to them belongs the honor of first inventing photography, yet both acknowledged and were skeptical regarding its application to portraiture owing to the time necessary for exposure, 25 or 20 minutes, in order to secure an image. It remained for Prof. John W. Draper, of the University of New York, to shorten the time to as many seconds. He had been experimenting on the action of light, and in 1837 he published his results respecting the chemical focus of a non-achromatic lens. In 1839, following the experiments of Daguerre and Fox Talbot, he tried to shorten the long time necessary for getting a picture, by shortening the camera, using lenses of larger aperture and short focus, and from this germ, portraiture by photography finally arose. "I resorted," he writes, "to a lens of five inches in diameter and seven inches focus, which I still have. I dusted the sitter's face with flour and pushed the back of the camera to the violet focus. At this period, I did not well understand the manner of illuminating an object and making the trial in a room, I succeeded in getting an impression. But observing that the dark spots of the dress impressed themselves, I perceived it was needless to whiten the face, and found, on trial that the forehead, cheeks and chin, whereon the light fell most favorably, would come out first. By augmenting the illumination and prolonging the time I could get the entire countenance. At this time, I believe, the problem of portraiture was virtually solved." This was in 1839.

Sir David Brewster, in the *Edinburgh Review* for January, 1843, writes as follows: Dr. Draper, we believe, was the first who, under the brilliant summer sun of New York, took daguerreotype portraits. This branch of photography seems not to have been regarded as a possible application of Daguerre's process, and no notice is taken of it in the reports to the French legislative bodies. We have been told that at that period Daguerre had taken no portraits, and when we consider that 20 or 25 minutes were then deemed necessary to get a daguerreotype landscape, we do not wonder that portraiture was unthought of in this connection.

Samuel F. B. Morse, the famous inventor of the telegraph, was associated with Prof. Draper in his early photographic experiments. He writes on February 10, 1855, that they commenced taking portraits together as early as 1839. And as their experiments had put them to considerable expense, they made a charge to those who sat to them, to defray this expense. Such was the early beginning of Professional Photography in America. Morse was in Paris in 1839, and Daguerre showed him his process personally.

No history of professional portraiture in the United States would be complete without an allusion to both John M. Draper, M. D., and Samuel F. B. Morse, of New York. To them belongs the distinction of making photography available for commercial purposes and of making the first portrait from life ever made by photography in the world.

In thus emphasizing their work I have only sought to pay a tardy tribute to the genius and memory of two great American scientists whose work and names are worthy to take rank with those of Daguerre and Fox Talbot in the annals of photography. (Applause.)

Following close upon Draper and Morse in the early forties came a host of practitioners, including Wolcott and Johnson, the Anthonys, Eda, White and M. B. Brady in New York. Hawes and Southworth in Boston, Cornelius and Langenheim introducing the Voigtlaender lenses from Vienna. The earlier experiments of Morse and Draper had been made either with single lenses or with plano-convex lenses in various combinations. With the Voigtlaender lens they had an achromatic glass made after the Petzval formula. In order to direct public attention to those lenses Langenheim, who was Voigtlaender's brother-in-law, came up here to Niagara Falls, and made, in 1846, the first picture of the falls ever made by photography. He made six prints and sent them to the crowned heads of six nations of Europe, receiving six gold medals in recognition of his services, which was considered a great achievement in those days.

Mr. Gustav Cramer: Excuse me, but was it daguerreotype that he made, or prints?

Mr. Cummings: Prints.

Mr. Cramer: He must have made negatives.

Mr. Cummings: Yes.

Mr. Cramer: I thought negatives were not known at that time. Pardon me for interrupting you.

Mr. Cummings: Certainly. In the brief space of time that has since elapsed, some sixty years, we meet here again to note the progress which this profession has made since then. And we find that photography has made wonderful strides. It has grown from a vague suggestion of an image on a metallic plate in the early days of Daguerre, Fox Talbot,

Draper and Morse, to the rich carbon or platinum print of to-day, technically superb and artistically well-nigh perfect—sometimes as beautiful as anything the painters can give: composition, tone, color, all combined to produce beauty. The arrangement of line, the development of curves, the massing of light and shade is just as an Italian master would compose a picture in the fifteenth century. Indeed, it may be claimed that these later samples of professional portraiture by a Steichen, MacDonald, Kasebier, Garo, Strauss, Curtis, Pierce, Eickemeyer, Histed, Hollinger and others have all the qualities of paintings minus, perhaps, only the color, and it is no exaggeration to say that they rank with the world's best photographs.

In making this statement I am not unmindful of the value and beauty of the early daguerreotype—because in the beginning, with the long exposure necessary, any distinct striving after artistic effect was hardly possible. On the other hand, for pure beauty some of the daguerreotypes of those early days can be ranked among the finest portraits ever taken by photography. But, as compared with this work of a later day, I contend that the creative imagination of the artist is not so evident in the daguerreotype. Why is this so? Because in creating any work of art the artist must first think of his subject, in a certain effect or design. In photography he must think of his subject in lights and shades, beauty of line, etc., and having created the effect he imagined, he then takes its picture. In this way the creative imagination comes into photography with design; and when they both come into any art, that art becomes a fine art. The examples of professional photography produced by the above-named artists to-day have all been carefully planned, thought out and designed by the makers. Their pictures have been designed as a poem, symphony or house might be designed.

For design brings abstract ideas into organic form, and the value of design in picture making lies in the fact that it makes good the conception of the photographer in the picture. Three things are necessary, however, to make the design successful. First: The idea must be present. Secondly: The artist must have a right technical knowledge of the materials through which this idea is expressed. Thirdly: He must know the fundamental principles of design, if beauty is to be the result.

In all these particulars the little group of professionals whose names I have mentioned have individually and collectively excelled. Messrs. Garo, MacDonald, Strauss, Pierce, Curtis, Steichen, etc., are to-day representative names of a high order of excellence in the American photographic world. They have ideas and are all masters of photographic technique and design. Without individualizing, their pictures are strikingly original, as a whole, full of graceful curves and soft touches of light and shade. Their feeling for balance and spacing, whether conscious or unconscious, is well-nigh perfect. Their work is broad and simple, and, as anyone can see, full of grace and refinement that in no way lessens the artistic strength of their compositions. Whether it be the result of inspiration or of craftmanship, or of both, they seem to have a genius for seeing and representing their sitters in a dignified and impressive way. This gift lends power and distinction and an indefinable charm to whatever they touch, and marks the difference between the master and the craftsman in photography or in any art. Such men are interesting and helpful, to say the least. By getting away from conventional portraiture, they enlarge the horizon, improve the work and leaven the whole mass of the profession. The force of their good example is such that their influence must be felt, if only in stirring good photographers to exercise their ideas and inspiring them with that first essential to all artistic work, viz.: an enthusiasm for their profession. But even they are not perfect and they often lack distinction in their photographs. This is one of the marked defects in American portraiture to-day, and with your permission I will enlarge on this point a little.

Some great writer has said that the salvation of all art lies in the saving sense of nationalism. And to-day I want to sound the note of Nationality in this convention. Perhaps, some day, when the American professional has progressed so far that he can do something really distinctive in photography, regardless of whether it is right in London or in Paris, we may see the beginning of a National School of Photography in America. The toning of color values into what they consider the right harmony and the painful insistence that each part of the photograph shall be just so, until where all is emphatic nothing is emphatic, is one of the reasons why the American portrait photographer to-day lacks distinction in his pictures. (Applause.) He does not properly understand American life as he should, and therefore does not recognize the lines and motion of such a life. He makes a picture of what he sees, but his vision is not clear. He misses what is distinctively American, and the one touch that would differentiate his picture from that of others and idealize it he loses. The French, English and German artists do these things differently and better than we do, because they go back to first principles in their analysis and study of the sitter. Their mental equipment is such that they easily catch what is distinctive and reproduce it each in his own way. Hence we have National Schools of Photography in Europe to-day that the American photographer will do well to study. In an address delivered before the Photographers'

Association of America at the Quarter Centennial Convention in Boston, in 1905, I spoke of the various schools so that it is unnecessary to dilate upon them here. But, I repeat, we seem to be unable to catch the impression of distinction in the personality of our sitters, and this is one weak point in professional portraiture to-day, in my opinion.

The artist photographer who aspires to produce something more than a mere likeness in his portrait study must set himself first to find that which is really distinctive in his subject. And if his subject has no distinction that appeals to a cultivated intellect, but only that which interests and amuses relatives and friends, then I submit the portrait should not be hung as a sample of photographic art. The painters, however, can teach us many things in this connection. Abbey's fine pictures of the Quest of the Holy Grail and Sargent's Prophets in the Boston Public Library have dignity and repose that is very striking. Sargent's portraits are never lacking in distinction. Millet's Shepherdess and the Sowers with their bodies bent and bowed with toil prove that there are few human beings that do not show by some outline of form, vital movement or repose a disposition of soul or body which interests our common humanity. Whistler's portrait of his mother shows better than words can tell us that truly beautiful American life which we all appreciate and love. There is the plain living and high thinking, the intimate home life, complete however narrow—the simple life filled with love of books, intelligence and refinement. What a pity that there are not more Sargents and Whistlers among the ranks of the photographers, to picture with the camera what you must see and feel every day of your lives—I mean the real distinction that exists in American life, that which brings the simple phases of that life into relation with art, to-day.

For, after all is said, the essential service and value to humanity of all great men is to draw us up, in some degree, towards their own level of insight, enjoyment and aspiration. As an instance in point I will cite the older painters. The value of the old masters has often been insisted on in photographic conventions, and rightly so, to teach the photographer art in picture making. Beauty of line, arrangement of light and shade composition, design, pictorial beauty, are all necessary for success in photography to-day as they were for painting hundreds of years ago, and can be learned from the works of the great masters.

I may be pardoned if I digress from my subject a moment to speak a word regarding one of these old masters who is always of interest to photographers and specially so at this time. On July 15th of this year Holland celebrated the tri-centennial of the birth of Rembrandt, one of the most illustrious of the old masters. He was born in Antwerp in 1606, and is sometimes called the patron saint of the photographers, because of his remarkable effects with the concentration of light—making strong but soft contrasts of high lights and deep shadows in his pictures. Many an amateur and professional after seeing Rembrandt's love for light and shade in his etchings and paintings will ever after take an exquisite delight in the value of light and shade in the most ordinary and commonplace surroundings. To me he has always been a constant source of inspiration and pleasure. The absence of color in the photograph makes it necessary sometimes for the photographer to supply this defect by judicious lighting and posing. In this emergency Rembrandt's lighting or his chiaroscuro effects give a perfect vehicle of artistic expression to the photographer, for in the mastery of light and shade he was a supreme adept and his whole life was devoted to this great problem. In studying the famous Rembrandt lighting in his portraits it is said that the portion of the face and neck in bright light is almost always in the form of an egg, oblong in shape, never in the half-egg shape, as so often happens in photographic portraits with the so-called Rembrandt lighting shown in our conventions. In this form of lighting the source of light may be from above or below in addition to that coming from the studio window. But the light shadow in nearly every case embraces the entire subject, the figures and background as opposed to modelling or mere light and shade on a subject to give it the effect of relief. The figure and details in the Rembrandt picture are always attached to the background, but even his dark backgrounds are of a luminous quality. His lighting of the eyes in his portraits is well worthy the photographer's attention. He makes an insignificant face and eyes interesting by throwing them into the shadow—but a transparent shadow that illumines the picture and suggests detail while losing it. Finally his work is remarkable for its wide range of subjects, and his great creative power. No less than 1,610 works by him are preserved to this day, so that there is no excuse for not familiarizing yourself with his work, 450 paintings, 260 etchings, 900 drawings and sketches. Philip Gilbert Hamerton has said, "Every art has its representative master, and the representative etcher to-day is Rembrandt." John La Farge gives an estimation of Rembrandt in his "Considerations of Paintings." "The black etched line of Rembrandt," he says, "will give me a far-spread horizon. A few scratches of his will make the earth sink or rise, remain solid or be covered with water. No longer, in fact, ink and paper, but light and air and shadow in varying form." Rembrandt died in Leyden in 1669, and since his time there are no pictures that grow upon one, I think, like those of Rembrandt. Their simplicity is noticeable. They show great repose, because the touch of the artist in them is clear and strong, show-

ing well balanced divisions of space. They form an excellent study for composition, lighting and abstract line for the photographer and art student. I remember at Indianapolis President Reeves characterizing his pictures made with so much thought and toil as the drippings of his soul.

At the Iowa State Convention, held recently at Des Moines, Prof. C. A. Cummings, of that city, was reported as saying that we should search for character in our photographs more and more. He believed, he said, in making pictures that get into your heart, by interpretation of the spirit—the very soul of the sitter. And this thought suggested to me a point of view, the spiritual side of portraiture, not often dwelt upon. In other words, my friends, to create a work of art, whether it be a poem, song or picture, you must first put a soul into it, to make it live, and to make it great.

"Unless the dauntless soul take part
In all your toil, there is no art,
No life, no wizardry, no power."

This, then, is all I can tell you; this is all anyone can tell you about professional portraiture in this country or any other. Find the soul in a picture; this sums up all that can be said about art and photography, in a nut-shell.

But in order to do this, to find the soul of a work of art, you must first have a soul of your own and be conscious of its existence. Which is equivalent to saying that the divine gift of expression, expression in the world of ideas, or the power to create beauty in your pictures is second only to the power to feel, appreciate and see beauty in pictures of others. Few of us have the power to create, but most of us can appreciate the beautiful work of others. Yet there is a right and wrong expression in photography and in any art which it is well to understand. The sensualist photographer expresses himself through his senses. Only the animal side of his nature appears, because he believes in only what he can see, hear, taste, smell and feel. His life of license represses the life of the spirit, and this is what it is to lose one's soul in art. The intellectual man expresses himself through his mind and spirit. All that is highest and best in him is brought out by intelligent thought and his soul waxes strong through the exercise of its faculties. That is what it is to save one's soul in art. Expression is life—repression is death.

This question of expression through the senses or through the spirit, through the body or through the soul, has been the pivotal point of all philosophies and the inspiration of all art and of all religions from the beginning of the world. Thoughtful men, for ages, have realized these truths and have taught the world, by precept and example, to forsake the life of the senses and devote themselves to the life of the spirit. Ascetics in religion fast and suffer, repress the faculties of the body that the spirit might have an opportunity to exercise and grow. St. Francis of Assisi, the artist saint of the Middle Ages, was a type of this form of expression. Probably between these two extremes—the license and the sensualist and the radical expression of the religious enthusiast—lies the truth for us, but just where is the great question; and the desire of one person who thinks he has discovered the point to compel all other men to stop there has led to war and strife untold. All law centres around this point: What shall men be allowed to do? How far may they go?

For instance, Count Leo Tolstoi, that great and good man, once a worldling, has now turned ascetic. Not caring for harmony as expressed in color, form and sound, Tolstoi is now quite willing to deprive all others of those things which minister to their well being. But there is in most of us a hunger for beauty, just as there is a physical hunger. Beauty speaks to our spirits through the senses; but Tolstoi would have his house barren without pictures and without music, and he advocates that all other houses should be likewise.

Whether the race will ever grow to the point where men will be willing to leave the matter of life expression to the individual is a question. The advocates of liberty are making progress. The race is getting better. Most men are anxious to do what is best for themselves and least harmful for others. We wait; we hope.

So much for the right expression of the soul in picture-making.

And now, in conclusion, summing up what little I have tried to say on Professional Portraiture, remember that art in photography can only be rightly discerned by the spiritual minded. The essence of art, that without which it cannot be what it is, is only of the spirit. In a photographic masterpiece it is not the surface of the picture but the spirit of the artist who stands behind it that you must seek and find, to appreciate rightly and interpret that picture.

"Back of the sound broods the silence,
Back of the gift stands the giver;
Back of the canvas that throbs
The painter is hinted and hidden.
Into the statue that breathes
The soul of the sculptor is bidden.
Great are the symbols of being,
But that which is symboled is greater."

Beauty of music does not exist for the deaf, nor beauty of painting for the blind. I tell you spontaneous appreciation of beauty in art can only come to those who have all their faculties, and a deep spiritual insight is not the least of them for the photographer.

We are so engrossed in material things that

the life of the spirit is clogged, diminished and sometimes destroyed. Sensuality, gluttony and a life of license represses the spirit, and the soul does not blossom. Harmony as expressed in color, form and sound is lost when a man's soul is gone.

Beauty is born of the spirit, as happiness is born of life, because the spirit is keenly sensitive to and is pained by lack of harmony, just as life is deadened by pain.

Let me invite you, then, to embrace this love of the beautiful in art. It is the worship of beauty which, in its turn, is only a manifestation of the great Creator of the universe. Many a sacrifice has been made, since time began, to art, the expression of beauty, and to her mother, Nature. The saints in this religion are the great artists of the world, the masters of poetry, music, painting and sculpture. Their lives are beacon lights that form an ideal for us to emulate. Into this galaxy of greatness the photographer may one day come. His prayer-book is his camera. His pictures are his prayers. They tell of his love of art, in form and color and the sweep of beautiful lines. Through them he can praise, with the touch of genius, the God of Nature and his works. This is the religion of the beautiful and the secret of how to make pictures. If you adopt it as your own and a part of your daily life it will make your lives sweet to live here and fill the hereafter abundantly for you with the assurances of great success and of divine promise.

Here endeth for us the little journey on Professional Portraiture in the United States.

I turn now to consider with you the second half of my subject as announced: A National Academy of Photography.

In March of this year the National Academy of Design, the highest art authority in the United States, and the Society of American Artists of New York, declared a union by a formal vote of both bodies. When their report is finally adopted, the members of the society who are not already in the Academy will become associates, the number of which shall be unlimited, while the number of academicians will be limited to 125 painters, 25 sculptors and 25 architects or engravers. While we welcome this union of forces as furnishing a needed impetus to the cause of American art and artists, one cannot resist the feeling that the addition of the word photographer to those eligible for the honors of this Academy would have honored them and would have strengthened the influence of the Academy with those who are honestly looking for the manifestation of art in any form. (Applause.) American photography, to-day, is showing art in a greater degree than one may find in most contemporary exhibitions of paintings; and while we do not claim for our medium an equality with painting in the matter of artistic expression, we do insist that photography is being exploited, of late years, more intelligently as a mode of real art expression than some of the older mediums. There are many photographs hung in our exhibitions to-day that represent real art—genuine, vital, personal art. Though still an undeveloped medium compared with painting, and though fettered with technical difficulties, when photography goes back to the fundamental laws of art, recognizes design and instils life into a picture by enhancing the blacks and vitalizing the lights into soft gradations of light and shade, the man who does this is an artist, though his recognition as such may be delayed by prejudice, ignorance, or ill-advised conservatism.

In order that you may understand this matter better, here is my proposition. The photographic profession to-day in America is on an unsettled basis. There is no authoritative body to settle finally the true standard of art in photography. The highest authority on art matters in the United States has refused or neglected, as we have just seen, officially to recognize photography as an art worthy to be ranked with painting, sculpture, architecture or engraving. I ask whether or not this Association, the National Photographers' Association of America, which for 26 years has been deeply concerned with the advancement of professional photography in the United States, is not in a position to-day to shape public opinion aggressively where it touches upon photographic interests? (Applause.) Whether you are not called upon as a body to take some definite action to protect these interests and secure some recognition at the hands of the properly constituted authorities in the United States for the art we love so well?

I submit that the N. Y. Academy of Fine Arts points the way for you to follow. That this is especially to be commended as worthy of your attention at this time—when the highest tribunal of fine arts in the world, the Paris Salon, has accepted and hung photographs side by side with etchings, engravings, lithographs and other forms of the graphic art—when the Austrian Reichstat which may be compared to our Houses of Congress, has definitely decided within a few days that photography is not a mechanical process in Austria at least but a fine art,—that at the three great fine arts exhibits of Germany, Dresden, Munich and Berlin, photographs are received and hung without restriction or discrimination,—finally that at nearly all the recent international photographic exhibitions held in Europe, in England or on the Continent the various learned and artistic bodies of the world accept photography as a fine art without equivocation or reserve. (Applause.)

In conversation recently with President Hearn a man of large views, and broad sympathies where the profession of photography is concerned, he admitted that the most important issue confronting the profession in this

country to-day was its general educational status. This, he declared, must be raised or professional photography, in the United States, would go backward. It was necessary he thought to formulate some plan whereby the most advanced members of the profession would be properly rewarded for their superior knowledge and skill in the art. (Applause.) And he has asked me to lay before you and advocate a National Academy of Photography as the best available means for the intellectual advancement of the profession. (Applause.)

The aim will be to bring into closer union the best photographers of the country, thereby promoting an exchange of ideas that will broaden their views and eliminate narrow, harsh and prejudiced opinions regarding photography and art. In thus concentrating the best minds in photography, their organized thought is bound to surpass any advantage individual knowledge may bring and can be used to greater advantage in promoting the best interests of the profession at large. Provision can be made in such a way to stimulate original research and to foster and encourage organized thought upon artistic photographic subjects. Furthermore, membership can be so guarded that neither money nor influence can take the place of genuine knowledge and ability. (Applause.)

The main purpose of the Academy being educational, knowledge and appreciation of photography as an art should be the standard of excellence. The Academy would always be in advance of general public knowledge and general public taste on this subject and by raising its own moral, artistic and professional standards to the highest point, it would do its share towards elevating the entire profession.

Of course this suggestion, however meritorious, will be criticised. But criticism to stand should be just and fair. I know that it will meet with opposition from the shallow minded photographers who will be opposed to any test which will uncover their pretentions and will separate them from the better minds in the profession. As he stands to-day the really well educated photographer has no advantage over the fakir in the profession. (Applause.) There should be some protection extended to the more intellectual members—and the Academy I propose would do this. It would create a condition whereby a worthy photographer would be recognized for his study, ability and advanced knowledge and be so well rewarded that he would strain every nerve to gain this reward.

Some will say that this Academy creates class distinctions, which is true,—the purpose of the undertaking will be to select the real sincere scrupulous worker from the fakir. Those who object to this will be those only who are afraid to come to a show down and be measured by academic standards. (Applause.)

Finally it will not in any way interfere with this Association but will only represent a step in advance and a wide field for its activities. How would it do this? By officially recognizing the photographer who is an artist. Being a body with authority they could single out great ability and confer honor for advanced knowledge and superior excellence in the profession. They could make it imperative that a man reach a certain educational standard before he could compete on an equal basis with those who had qualified in a higher class. Such a condition would soon force every man in the profession to aim at greater efficiency in picture making if he wished to succeed,—a condition devoutly to be wished for.

It might be objected that this would create class distinction in the profession, which is true to a measure since the acknowledged leaders in photography would then be in a class separate from the second and third rate men. But this is not an altogether unmixed evil, since everybody knows there are degrees of excellence in every profession and no one will seriously object to this, except, as I have said, those photographers who are afraid to come to a show down and be measured by academic standards. (Applause.) Finally the Academy will not and cannot in any way interfere with the work of this Association but rather aid in building it up one step higher, since it represents a step in advance for the profession, it only widens and broadens out the field of your activities. You are engaged to-day in a work of great merit, seeking to establish the status of professional photography in the United States. You are earnestly striving to evolve a new profession in art, that will ultimately take rank in public opinion little if any below that of the painter, sculptor, architect or engraver. But the price of your success will be eternal vigilance and constant unceasing effort. Unless you push ahead intelligently and push hard all the time there will be no progress, there will be no profession.

The Academy of Fine Arts of New York was established in 1806. The founders were 24 all told; 16 painters, 1 sculptor, 2 architects and 5 engravers. The early presidents were such men as Chancellor Livingstone, Dewitt Clinton and Col. John Trumbull, the painter. In 1826 Samuel F. B. Morse, already alluded to as the friend and co-worker with Dr. Draper in photography, led a revolt against the conservatism of the Academy, and started a society for the promotion of the arts and the assistance of art students. This was followed by the New York Drawing Association which later was changed to the National Academy of Design. Mr. Morse was elected president of this body and held the place until

1845, thereby demonstrating his great ability and character as a leader in the art world. I speak of him here to show how close was the connection between art and photography even in the early days in the person of the pioneers like Samuel Morse.

The late George William Curtis, a few years ago, spoke at the annual banquet of the Academy. He said "Art is but a form of expression, but in every art the Mute Milton of Gray of the Pictor Ignotus of Browning is a pathetic figure of the *imagination not of life*. The Living Milton, in whatever form of art he may appear, seeks first to *sing*, but the *instinct of song* is unsatisfied if his singing be not heard. Mr. Emerson was once asked why his interest had declined in a youth who had seemed to him full of promises. With his wise, kind smile he answered: "When I found he did not crave an audience I doubted his genius."

The Academy does not give the artist *genius*, but it gives him genius *play*. It gives him the audience that his genius craves and all the artists combing and concentrating their common interests in the Academy surround themselves with ever accumulating and richer traditions. It makes them felt in the community as an aggressive force and gives them the splendid advantage of organized power. All this and more. The National Academy of Photography, if rightly started, will do for you. It will mark a new epoch for the progress of professional photography in America. It will lift your profession to the place where God meant it should be placed, high up among the arts of the Twentieth Century, useful, beautiful, honored and respected wherever men revere the beautiful and true in art. (Applause.)

President Hearn: I will only appoint one committee at this time, that on the Rules and Resolutions: Mr. George Nussbaumer, Walter Holliday, and Mr. Kern, of Chicago.

We will now have the pleasure of listening to an address on a subject which is of vital importance to us all, that on the subject of graft. Mr. Alfred Holden, the exponent of such a thing of dignity, will address us. (Applause.)

Address by Mr. Alfred Holden.

Mr. President, Ladies and Gentlemen: The President of your Association sometime ago wrote to me and requested that I talk on the subjest of graft. Sometimes I have been puzzled to know what the President meant, whether it was to be a compliment or not as I am from Philadelphia, in Pennsylvania (Laughter and applause), and as you all know that Philadelphia, in Pennsylvania, as one great city in this country has been performing her duty nobly and well through the uprising of her citizens in eliminating graft from public office. (Applause.) I feel proud as a citizen of Philadelphia, in being one who fought in the ranks for the elimination of that which is a blot and a disgrace upon every city, every state, and has been of the United States, and God speed the time when graft may be eliminated entirely. (Applause.)

The last clause of Article V. of the Amendments to the Constitution reads: "Nor shall private property be taken for public use without just compensation. And a mighty useful clause it has been for upholding justice against demagoguery and thoughtless impetuosity that would have corrected an abuse by a crime. Suppose that clause had been so written that it read: "Nor shall private property be taken for public use or public property for private use without just compensation." How it would have stopped the impudence of grabbers of franchises and other public properties, and the rascality of legislators! How much injustice and exasperation it would have prevented! (Applause.)

We live our lives as men and women, arising in the morning, retiring at night, but in these few hours we begin at once, if we are men and women rightly put together with good seeing minds, and think how shall we accomplish our work this day? How much have we to do and how well shall we do it? If we can say this, and we can begin the morning thankful for the rest we have been given during the night, with a clear head, with a warm heart, and an honest thought, and hammer along through the day with that thought, we shall, as photograhpers, keeping that one thought in view, change the status of our profession, bearing it into greater respect than it has to-day before the public, and we shall achieve wonderful and grand things for ourselves because by honesty, fair dealing, giving value and just compensation we shall arise in the estimation of our patrons and our profession will be dignified and glorified every day that we work in it. (Applause.)

Graft evidences itself in many ways and here is a little story that I want to read to you. I cannot think out stories. I cannot carry stories in my mind. I cannot bother particularly with notes, but think at the same time you will pardon me if I once in a while read a story for the purpose of explaining a point.

The wife of a Philadelphia clergyman recently sold a box of waste paper to a ragman. In the box were a lot of manuscript sermons of her husband's. A month or so thereafter, the ragman again came around, and asked if the lady had any more sermons to sell. "I have some waste paper," said she, "but why should you particularly want sermons?" "Well,

mum, you see I did so well with them that I got here a month ago. I got sick up in Altoona, and a preacher there boarded me and my horse for a couple of weeks for that box of sermons, because I hadn't any money. Since then, he's got a great reputation in those parts as a preacher. I'll give ten cents a pound for all you have." (Applause and laughter.)

The meaning of the word graft as I have taken it from the dictionary does not specifically authorize the use of the word as we have used it in modern times. Many of us, not being farmers, have used the word graft in such a way that we have forgotten the orchard and the plant and the green vegetation which Almighty God puts before us every day. Graft in the true sense of the word is a shoot or scion taken from one tree and placed on to another and attached to it. A graft on to another tree is for the purpose of improving the tree and carrying out an experiment as to whether it will be a success or not, because grafts are not all successes, as many of them in Philadelphia, in Pennsylvania, found out. But at the same time it is something that really does not belong to the parent body. It is something that until the graft is made, lives out its own life in its own particular way. But if the graft in that sense be successful we get an improvement perhaps in the fruit that we eat and in the vegetable that we eat, but a plain, outright, out and out, measley, mean, contemptible grafter is a man who is a trickster, and a man who attaches himself to a body he ought not to attach himself to, for his own interests, (Applause) in an act of glorification or accretion, but an act despicable from its very make-up and an act which carries evil wherever it goes.

Now let us take this into consideration: that to improve, to do good work, to create great things, we must be everlastingly at it, not leaving or casting out of our minds the purest of thought and purpose.

As an illustration of one of the meanest kinds of graft that I know of, a certain little girl named Katie, employed by a certain firm, not having the freedom of the pond in winter, not having the beautiful country existence, was going one morning down to her employment. The frost had been getting bold, and it had frozen a slide along the street somewheres, the delight of every child, and many of you have got your bumps by reason of that slide's existence. The little girl withstood the temptation for several days, but finally she could not withstand it longer, and one morning as she was going to her work she saw that slide and off she went sliding along. The consequence was that she was late for her employment for two minutes, and she was fined two cents for those two minutes that she was late. That is one form of graft. A child is a child, and should have every opportunity of growth, mentally and otherwise, and how can a child better get it than by exercise as nature and the child's mind and inventive quality provides for it? Let us cast out of our minds all of these little mean things for the purpose of getting the advantage of the other fellow. Let us take into our minds this quality: I have made a bargain with one of my sitters to do a certain kind of work,—let us enter into that bargain conscientiously, carefully and slowly; don't hurry; don't make a mistake in your hurry that you will regret having made afterwards, but let us say this, let us jot down, because our memories sometimes fail us,—let us jot down the facts of the case, and if we make even a dollar job, let us give a dollar and one cent's worth. (Applause). If we make a ten dollar job, don't give them three dollar's worth. It is wrong; it is not honest and it is graft. Let us, as photographers, be honest, honorable and good citizens. (Applause.)

The boy who is conscious that he has a fortune awaiting him says to himself, "What is the use of getting up early in the morning and working one's life out? I have money enough coming to me to take care of me as long as I live." So he turns over and takes another nap, while the boy who has nothing in the world but his own self to depend upon feels the spur of necessity forcing him out of bed in the morning. He knows there is no other way open for him but the way of struggle. He has nobody to lean on,—nobody to help him. He knows that it is a question of either being a nobody or getting up and hustling for dear life. Thus shrewd Nature, in making man get that which he wants most by the way of necessity, brings about her great ends of civilization and character development of the race. The money, the property, the position are small things in comparison with the man she is after. What price will nature not pay for a man? She will put him through the hardest school of discipline, and train him for years in the great university of experience, in order to perfect her work. The more money or property the man gets on the way is only incidental. Nature is after the man. She does not care a fig for the money, in comparison; but she will pay any price for a human giant. "I'm not wasting my sympathy on the children of the poor," says U. S. Senator J. P. Dolliver, once a poor boy himself. "What little sympathy I have I will give to the children of the rich. If you have one hundred thousand dollars, and give it to a boy to start him out in life, he doesn't start. I suggest keeping that hundred thousand and that boy apart; it will be better for a boy. The cabin where Abraham Lincoln was born did not shelter the childhood of a king, but something better than a king—a man. (Applause.)

Let us take this little portion of a clipping to our own hearts. Let us go back to our work, let us go back to our homes more determined that we will glorify the fact that we live, as good, honest, poor men and women, pure in thought, pure in mind, using every effort to cast a glow about us that will encourage and lift up the other fellow, casting away from us everything which will depreciate or prostitute the mind, that is trying to do greater things. Let us use every effort as individuals to bring about the greatest good to the greatest number, and particularly in photography let us cast out graft, all meanness, and let us be broad minded, great big men and women, not alone our own selves and for our own aggrandizement and our pleasure. The happiest times of my life are those when I am doing something for the other fellow without the consideration of the dollar, and I want to put into your hearts the same thought and the same action, and I feel just now that I would like to pass the feelings that I have just now into your hearts that we may be that which we ought and are intended to be—men. Thank you. (Applause.)

Before I go down I want to ask a favor. We have been for these last three days working very hard to get all the exhibits in shape. Most of them are in place in the professional line, and those which pertain particularly to our Asociation. Upstairs is a beautiful collection of pictures, the Second American Salon, worth while your study and worth while your thought, and if I can get, this afternoon, about fifteen or twenty husky fellows, quick and nimble fingered, to help there upstairs, we will get these things in shape. We have two rooms already together, but it has been a big work. Get together and in three hours we will have the job done. Anybody who wants to help come to us after dinner, and give us your good hand and your good will. (Applause.)

President Hearn: I would like to announce to the members here present that, owing to being the first day and the impossibility of many who arrived on early morning trains to get here in season for the opening, that it has been deferred, as you see, until a little later. To-morrow morning, however, we desire to commence at 9.30 sharp. Will you kindly help us to carry it out?

The duty falls upon me now of addressing you, and in so doing I will try to be as brief as possible.

Photographers' Copyright League of America.

In reviewing present conditions of matters which have become more or less prominent during the past year, that of the Photographers' Copyright League of America is rendered at this time particularly important. While to some, this may not *now* appear as of personal interest, yet even from this point of view circumstances may arise in the practice of our vocation, when a just copyright law may largely nullify in importance those matters which now engross your attention. With others these conditions do already exist.

This Copyright League has been organized for a number of years, being "established to secure and protect Photographic Copyrights, to suppress piracies, and generally to promote the interests of the Profession." It has, as you see, taken unto itself a very important task to perform, involving much labor and expense, with very close and alert attention. The employment of able counsel has become necessary to protect the interests of Photographers as a whole against other interests which would be much benefited if the works of photographers were unjustly discriminated against; either by being left out entirely from protection in the proposed new bill that is to be formulated, or if the protection granted us were to become entirely inadequate.

The members of this League embrace representative photographers all over the country, many of them highly esteemed members of our Association, while the broad democratic spirit that dominates their arduous and unselfish labors, is such that entitles them to your loyal and cordial support.

The report of the Legislative Committee of the League as to the present condition of the Copyright Law, soon to be enacted, will be presented to you at another session of this Convention; to which at that time I would commend your close attention.

The Earthquake Disaster at San Francisco.

The practical destruction by earthquake of the beautiful city of San Francisco, and the attendant disastrous results equally as appalling elsewhere in that zone of disaster, with the great loss of life, breaking up of families, is a horror of too recent an occurrence for us to be other than very solicitous as to the future welfare of all those who in the brief spell of a few minutes were made homeless, stripped of all their posessions, and rendered incapable by reason of this calamity of obtaining a means of support for themselves and their families.

Naturally the photographers of the rest of the country becoming solicitous for the welfare of our professional brothers, warranted the organization in New York and Boston of two Relief Committees, to raise subscriptions for their benefit; both Committees (which subsequently united as a joint committee un-

der the name of the National Relief Committee for California photographers) have with the Rochester section of the P. P. S. of New York, and other independent sources, been the means of raising much needed funds for their present necessities, which have, as I understand, been dispatched to them. From reports received the need is still very great, and your contributions *without restrictions* as to how the same are to be applied by their Relief Committee, are most urgently requested from our members. Our Treasurer, Mr. Frank R. Barrows, is empowered to receive subscriptions for this purpose, and it is hoped by your presiding officer that there will be many who will aid in the work of relief.

I wish to draw your atention to our Constitution.

This consists of five articles:

The first one relates to objects of this organization and the principles that underly its existence.

The second relates to membership and matters pertaining thereto.

The third to the officers and their instructions and duties.

The fourth to the Board of Trustees and the Committee on the Progress of Photography.

The fifth to the altering or amending of the Constitution, as to how it shall be done, etc.

It is, however, in relation to Article 1, which consists of four sections, that I wish to address you, and this Article I will now read to you:

This Association shall be called The Photographers, Association of America. Its aim shall be to unite the photographers of this country in the following objects:

1. To improve the science and art of photography by diffusing scientific knowledge among its members, fostering photographic literature, stimulating discovery and invention, and encouraging the product and the manufacture of the many articles required for photographic use.

The idea of the first sentences of Section I, of this Article, which is to improve the science and art of photography, stimulating discovery and invention, and diffusing the same among our members by fostering photographic literature, you will readily preceive has always been our policy, while the continued growth and multiplicity of our photographic literature including our own annual publication now in its fourth year, has been the means of widely exploiting all matters of interest to our members.

The last clause of this Section is "Encouraging the product and manufacture of the many articles required for Photographic use." (Applause.) This we individually and as an Association have always done, especially so since the most excellent precedent established by some former administration, of reserving the afternoons of our Convention days for the Manufacturer and Dealer for the exhibition and sale of their wares, has been practically adhered to.

In this connection it is fitting to call to your notice a matter that has on several occasions come to the attention of us all, and that is, the discussion of the elimination of the manufacturers and dealers from our Convention. The wisdom, propriety and advisability of this step I very much question, for while the voting power to do so may appear to be given us, it can only be done by such alteration in our Constitution as to practically disrupt our Association. We would also in addition, be shorn of a large part of that membership which is now kept up year after year, while our active members largely fluctuate, becoming active only when the Convention returns again to that locality.

The moral obligation that we are under to our Association members, their position in the right of equity, and our sense of justice precludes any adverse serious consideration of this subject.

The tenor of the *whole section* of this Article of our Constitution is also entirely at variance with the proposed idea. If this were done it would tend towards obstructing the broad spirit of that noble band of veterans, many of whom have now passed away, who, while actuated by the loftiest ideals of progress of our Art-science, possessed as well, true brotherly affection towards those men whose inventions and improvements enabled them, as well as ourselves, as users of their products, to acquire greater proficiency in our chosen vocation.

We are sailing under a constitution where we are *obligated* to "unite the photographers of this country in certain objects," and the opportunity of enabling the manufacturers of our lenses, cameras, papers, shutters, mounts and backgrounds to exhibit what they have to a thousand or more, "is stimulating discoveries and inventions" (applause) on their part; and is likewise "encouraging the product and the manufacture of the many articles required for photographic use," since by these means, they can display their goods to a very large proportion of our members, who are equally as desirous of seeing them, as they are of listening to our lecturers, or studying the exhibits.

During twenty-six years of the present Association, and seven years of its predecessor—the National Photographic Association—the photographer, stock dealer and manufacturers have been associated together. The cause of the disruption of the old National Photographic Association was the rival commercial contentions, and their being too closely mixed up in the conduct of the conventions, interfering with the freedom of the photographers, dominating the policies and controlling the

selection of the location of Conventions, and largely interfering with the election of their officers. Their attendance was withdrawn and in 1876 it went to pieces. The birth of the Photographers' Association of America in 1880, and its being kept alive to this date, is in pursuance of the entire control of the policies by the active members, and while we are still desirous of "encouraging the product and manufacture of the many articles required for photographic use," and the display of their goods at our Conventions, in no sense do we abate a single iota of our right and intent to control and conduct our Association to the best interests of *all* our members. I believe a thorough and clear understanding of this matter has been rendered necessary at this time and that the only way to do so, has been to present the conditions that formerly existed during the life of the National Photographic Association and to show the solid rock that the present one is built upon.

The personnel of our entire membership has largely changed during the last fifteen years, and there are now many of our most energetic members, both active and associate, who have no knowledge of the past with the pitfalls that our elders have avoided and left with this coming race a heritage to be preserved, conserved and handed down for another twenty-six or more years yet before us. With the restlessness of youth to change existing conditions *radically* with all the dangers attendant upon so doing, with the idea that because it is not new, that it must necessarily be bad, they would risk the grand future possible to be gained by having the glory, strength and beauty of our beloved Photographers' Association of America, bereft of the adhesiveness of its parts, and left in a misshapen condition, a sight to behold and an object of pity and commiseration—and for what? That we may try an experiment, that even if it should result in eventual success, cannot accomplish a single thing more to the glory of our profession than is possible to-day.

For twenty-six years we have been a large family—every year we look forward to the time when we can meet again. One by one, the old guard are departing, and new members are becoming in turn more and more a familiar sight to us. But, brothers and sisters, we love our *whole family*. We cannot view with calmness any disruption which will split us up. It is only misunderstanding that is threatening to disrupt us. There surely is nothing else! We still have the same brotherly affection as of old. We may all be at fault, that causes this indifference on the part of some, intense earnestness in opposition on the part of others; it may be that I am to blame in not welding you more together. Yes, my friends, I will take the blame if that will mend matters, and I will try and live it down, but I shall always want to come and see us all united—the family still meeting year after year. (Applause.)

I canot possibly look with calmness at the possibility of coming here and not seeing our dear Papa Cramer, who nineteen years ago was our President, but who to-day, beloved above all men in our ranks, is only an associate member, to be legislated out of membership. (Applause.)

Mr. Cramer: I am a life member; you cannot bar me out, and as long as I live I hope to attend your conventions.

President Hearn: You will not permit this, will you, Papa Cramer?

Mr. Cramer: No. You cannot do it; I am a life member; I have my diploma. (Applause.)

I am very sorry that I have allowed my feelings to delay so long in presenting a matter which I have had for years very much at heart and beg your indulgence with my personal allusions yet to come. As a young man I often allowed myself to have day dreams, which would excite my ambition, and which never failed to spur me on to see if I could not in some way, and at some time before my work was done, be the means of doing some good in this art and have some advancement, however slight, result from my efforts. We all have had the same experience and we would not efface them from our memory even if we could. We treasure them too highly.

Ever since I first entered in photography as a boy of seventeen I have, like many here to-day been passionately devoted to it,—it has been the ruling passion of my life—this alone explains the labors I have gladly put in association work, and my interests and persistent effort in the work of the Lens and Brush Club of Boston. It also answers the question that so many have asked me, as to how I found time to write my Professional Portraiture series in Wilson's Magazine and other things. All of this work has been done by studying, working and writing night after night for weeks, months and years, and often till the small hours in the morning. Excepting "The Practical Printer" which as many know was written in my youth, I have never received or asked a cent for any of this work in my life, and I never shall receive a cent. (Applause.)

When at the time of my unanimous election as first-vice-president of this Association at Indianapolis, I foresaw that at some future time it was possible that I might be elected to the highest official position of honor possible to be given me, I then saw that it were pos-

sible if I could persuade you to grant it, that during my term of office I might be able to launch that one thing which photography needs to-day—to dignify her in the eyes of the world. To this end I engaged Mr. Cummings and instructed him to present the idea to you for me, knowing full well that he could present my views much better than would be possible in any other way. I refer to a National Academy of Photography. (Applause.) The masterly manner in which this has been presented you have seen and heard. I have spoken to some outside people about it, and they have one and all invariably told me that the only way this could be accomplished is by affiliating ourselves with some recognized body and have *them* recognize our right to make a bid to the public for recognition of this attainment for photography. We see that Austria has legislated that photography is elevated as a fine art, and when we see the marvelous work of R. Duhrkoop of Hamburg, on exhibition upon our walls we would not be surprised to hear that Germany has also done so. That we have artists in our country to whom we, as a duly incorporated body for twenty-six years, could with propriety elevate to this position of academicians is evident beyond question. That this honor in our country should emanate from an Association like our own is right and proper. That we should do this, in a broad spirit of recognized merit, to the advancement and dignifying of our Art, with utter freedom from jealousies is also evident. It should at the same time be beyond the possibility of attainment by fraud or political wire pulling, or less the whole thing becomes a farce and the laughing stock of Artists everywhere.

Dignify our great artists, and let them thus selected be our judges as to whether the works of our members at our future annual Con- a member would entitle *any of us,* to become a member of the Academy. (Applause.) This would entirely eliminate the question of prizes, as the object of our efforts would then be pitched to far greater efforts to receive this distinction of which there would be none higher, as it would only be possible by the assent of an honorable body of men whose personal integrity and the dignity of the art would compel them to honor those who should be so honored. I ask your serious consideration of this matter, and ask assent for the matter, which I thoroughly believe is possible and at the same time will be the grandest step towards dignifying photography in the eyes of the world.

Now, a few words as to the present Convention:—

The Association's Annual and our much exploited policy of this Convention is known to you all.

My belief that at least one Business Convention is a necessity has been proven to me many times since I inaugurated this policy. I know better than anyone of you that this is a fact, as it is not possible for you to know the contents of much of my mail, which being of a confidential nature was not even shown or commented upon to my brother officers.

The results of the faithful work of the best Board of Officers, that any executive ever had associated with him is now being presented to you. The Convention is your own, and you could not give us greater pleasure than by making it a democratic one. Your officers are here to serve you. I thank you. (Applause).

We have promised you this one thing, that there will be plenty of opportunity given you for talking, for the expression of opinion from our members. It is absolutely beyond my desires to have the speakers whom I have selected for our mutual instruction and benefit to do all the talking. One of the hardest things we have to encounter as officers, and that has been the experience of everybody who has had anything to do of this kind, is the reliance of the members upon two, three or four very nice speakers, and letting them take possesion of the Convention. I had my mind particularly called to that in 1901, at the Photographers' Association of New England, where you came last year. At that Convention I was elected its President for the following year. In looking over the reports, of course there are many bouquets thrown as naturally, but I commenced to wonder how many there were that took part in the Convention. I ran it over. How many people do you think there were in that Convention of four days who had anything to say that was reported? About five, six or seven. That was disgraceful. That is not democracy, and because we have those members who are forced, often, to take the platform or get up in their seats for the purpose of keeping things moving, it is only because they feel it is incumbent upon them to keep things going. You must not think that that is because these people are fond of talking. They sacrifice much simply to do you good. Now this time I want you all to take part in the Convention. I want to have one thing, if nothing else, in this Convention—I want it democratic. (Applause.)

I would like to have a few words from Papa Cramer.

Before Papa Cramer talks I want him to understand one thing. He did not understand my talk right. I said this. We did not want to come here and find Papa Cramer not here. I know he is entitled here because he was our President nineteen years ago

(Report continued on page 405.)

By D D. Spellman, Detroit, Mich.

WET SNOW. By J. H. Field, Berlin, Wis

This and the picture facing were selected from the series exhibited at the National Convention, one of which was awarded the blue ribbon of the Salon.

THE TRODDEN PATH. By J. H. Field, Berlin, Wis.

This and the picture facing are good examples of the class of pictorial subjects that photographers can dispose of at good prices through the art stores.

By D. D. Spellman, Detroit, Mich.

He can always come anyway; but there are other men like "Papa" Cramer, whom we would like to see, and we do not want to have them legislated out of office, and I ask Papa Cramer to help us, because he helps everybody.

Mr. Cramer: The hour is already too far advanced. I guess you are all feeling like going to lunch.

(Cries of "On the platform," and applause.)

Mr. President, Ladies and Gentlemen: I feel so much honored by your flattering remarks and your kind words that my heart is full of joy and happiness. It is a horror to have the idea that you shall ever shut me out of your Association.

President Hearn: We never will do it, Papa.

Address of Papa Cramer.

And deprive me of the one pleasure I have during the whole year, to be with you during the anual convention. It always makes me one year younger and this is the reason. (Applause.) I have heard so many flattering remarks from ladies and gentlemen, and particularly from the ladies (Laughter), and what makes me look so well?. It is because I am with the boys, and like to be with them. (Applause). I only wish that when we once depart from this world and go on the other side, of which we know very little, that we will have our annual Convention (Applause), come together and see our old friends.

I see several friends whom I have met many years, and it is always grand satisfaction to look in their eyes and shake hands with them. I hope that this pleasure and this happiness will not be taken away from me. I was one of those instrumental in drafting our present constitution and by-laws, when, as our President has already explained to you, it was the intention to keep those interested in our beloved art of photography in close touch with each other. Your interests and the interests of the manufacturer or getting closer, and by your demands the products are steadily improved, and to see the products of the manufacturers is as much of interest to you as it is of interest to them to show to you. I hope that nothing wil happen to mar these pleasant relations. (Applause.)

It has always been my greatest wish on this side that the National Association of Photographers shall prosper, because in unity there is strength. No matter how many associations you may form in your single states, there is nothing like the National, to meet friends from all parts of the country, from the far West as well as from the far East. I had the pleasure of meeting a gentleman from Los Angeles this morning whom I had not seen for nine years and he had been growing so much larger I did not recognize him any more. It is no wonder. Nine years is a long time and if we did not see our friends oftener than that we would be liable to forget. For that reason we should all endeavor to keep up interest in the National Convention and come here; and here is the foundation of knowledge, the foundation of progress, and I am very much pleased to hear such good ideas and able propositions as we have heard this morning from Mr. Cummings' able lecture and by the President's ideas. I hope that you will all take the hint of the President—each one of you think of some topic to talk about, and not leave it to only a few. It all does the country good and it is for the benefit of the Association, then you can reap the greatest benefit for yourselves. The Convention is just what you make of it, and it is in your hands, as the President has so well expressed it. (Applause.) It is the same as if you go out to a picnic, if you don't amuse yourself, and don't play with the party, blame it on yourself.

During the existence of this Association I have visited each and every one in all the twenty-six years, except that in Minneapolis when I was confined to bed and very sick. The fraternity sent me a beautiful telegram, expressing their good feelings and wishing me a good speedy recovery, and I must say I never felt so much the power of sympathy, the power of love, the power of good feeling, as I did at that time. It improved my condition. (Applause.)

This, mind you, is an Association of Photographers. We are here to get new ideas, to improve our work, to enrich our knowledge; but there is also another purpose, and that is to foster friendship and good feeling and sentiment. When things are going so far that the almighty dollar is ruling everything, then I say life is not worth living. (Applause.) We do wrong to put the golden calf on the throne and bow our backs to it. Let us retain our soul, our sentiment; try to make ourselves and everybody that we come in touch with, happy. Be to this world as much as you can, and the world, with all its defects, will be a heaven to you. Let us be happy and study that great philosophy to make others happy. Thank you. (Applause.)

President Hearn: Now you have had talks upon two or three different subjects. Is there anything more to be said on these subjects by any of the members present?

(Motion to adjourn seconded and carried.)

SECOND SESSION—WEDNESDAY MORNING.

The Convention was called to order at ten o'clock, President Hearn in the chair.

PRESIDENT HEARN: We will listen to some communications that have been sent in to us.

Milwaukee, Wisconsin, August 6, 1906. Mr. F. W. Medlar, Secy. Photographers' Association of America, Niagara Falls, N. Y. My dear Sir: I regret very much that I cannot attend the convention. Pressure of business prevents me from going at this time. Enclosed please find check for five dollars for membership fee and dues, for which please send me a membership button. Wishing the officers every possible success, I am, fraternally yours, BONNIE J. BROWN, President Wis. Photo. Asso.

Los Angeles, California, August 7, 1906. Charles W. Hearn, President Photo. Association of America, Cataract Hotel. Success, from one out of the gang but still with you. F. C. SCHUMACHER.

(Applause.)

PRESIDENT HEARN: We have at the present time practically entered upon the business side of this convention with this morning's session. We have upon the programme a lecture on "The Purely Business Side of the Photographic Problem" by W. I. Scandlin of New York, who I take pleasure in now introducing to you. (Applause)

Address of W. I. Scandlin.

MR. PRESIDENT, LADIES AND GENTLEMEN: We are told that fiction writers of the present day find it impossible to give to their readers a new theme, that there are but three themes in the field of fiction—sentiment, mystery, adventure—and that every story that has been or may be written must be worked out with material that has been in use since first the story of creation fell from human lips upon a listening ear. If this be true of those writers and thinkers who have at their command the vast domain of fiction, you surely will not this morning look to me to give you a new theme or new material upon which to base a formula for a successful business. This is a field of fact from which I must draw my material, and it is limited. I can only hope that in using this old material I may give it some new form, clothe it in local color and so present to you these threadbare facts that they may take on a new suggestiveness of value to some of you at least. The purely business side of the photographic problem—yes, the photographic problem has a business side, though many of us, I think, fail to realize it until it is too late—and I make this statement not so much to those of you who sit before me as to the far larger number of our craft who do not avail themselves of the advantages accruing from attendance on these conventions.

We who do realize that photography has a business side have learned to know not only that it is its most important side, but it is by far its most difficult side. How much more easy is it for any one of us to perform some photographic stunt along the artistic or technical lines of our handiwork than to pay our stock bills promptly and to keep an ever-increasing balance in the bank. This, after all, Mr. President, is the aim and, from the business viewpoint alone, is the only aim of photography or of any other business. There are other viewpoints from which the higher motives that actuate the conduct of a business may be seen, and when they shine through the daily struggle for existence they take upon themselves an added lustre. But from the purely business standpoint there is but one aim in business, and that is profit, and the question I want to talk about this morning is the consideration of how to get out of our business the largest possible percentage of profit. I think the question may be formulated something like this, and you will notice in my formulation that I do not make money the principal part of the investment. I shall formulate the question in this way: How can I convert my brain, strength and energy into money which, added to a given capital, shall be made to bring me adequate returns upon each and prove a sinking fund upon which I may fall back when brains, strength and energy have become exhausted? This I believe is a fair way of stating the question. Its answer is one that is making the all-increasing work of the civilized world to-day. Can we as photographers work out an answer for ourselves? I believe we can. But I also believe that in working out this answer it must be done upon broader lines than many of us have traveled up to this point. There must be infused into our business lives more of those hard-headed, calculating, energetic business methods that characterize the successful business man in other lines of business about us in the world. We are embarked upon a business career. We are in the maelstrom of competition. Our all perhaps is invested in the enterprise. There must be at the helm a pilot, steady, reliable and competent. He must be endowed with the power not only of appreciating the wildness of the storm, the beauty of the setting sun or the gorgeous glories of its rising; he must also know the dangers that beset his course and how, when shipwreck threatens, he may steer his craft

through the breakers or find for her a safe harbor in which to ride out the gale.

In other words, there must be at the head of every successful photographic business a business manager, cool, clear-headed, far-sighted, a man who, with these attributes, may combine the qualities that make him proficient under the skylight and in the work rooms is to be congratulated, but he must be a man who is in the habit of making money, and after having made it, of knowing how to keep it. Our business requirements are two-fold: we must have the man or woman of artistic temperament, capable of carrying on the work under the skylight, but in most cases this very artistic temperament militates against the possibility of its possessor working out the hard business problems that must be faced. There must be, then, a business manager who is probably from his very equipment in the business sense equally unfit to work out the artistic and the technical lines of work required under the skylight. We must never forget, too, that in the investment of our capital in this business the money part of it, though oftentimes the smaller part, is the only portion of our capital that will pass current in the market. We must therefore husband it carefully and expend it wisely, for until this money portion of our capital invested be made to bring us back returns that shall cover all the running expenses of our business, we are not even self-sustaining and the figures that allure us so often as being profits are actually losses; and by running expenses let me tell you this, that they include not only such items as rent, taxes, water, lighting, fuel, advertising, copyright, insurance and other items that are familiar to you—help and stock—but they also must include a fair percentage to cover deterioration on stock each year; they must also include a fair amount to cover interest on the money invested, and what is oftentimes forgotten or lost sight of, they must also include salaries for ourselves equivalent to what our services in the open market would command.

I submit that unless our business investment of money capital brings us back all these returns on money, we are failing in being self-sustaining, for we are eating into and impairing our capital, whether it be brains, strength, energy or money, without getting from it adequate returns. In this connection I believe that the question of location is a very important one, whether it be in the establishment of a new studio or in the continuation of an old, and local conditions play a very important part in the consideration of this question. I think these questions should be kept under careful observation at all times. There are many communities, large and prosperous, where it would be absolutely impossible to maintain a successful photographic business. It is purely from local conditions that cannot always be estimated from the outside. These conditions, the details of them, must be studied by each individual studio. In the question of the policy of his studio, which is also very important, these conditions play a very important part. I believe, however, that the policy of a studio should be laid out upon the broadest possible lines consistent with local conditions. The equipment of the studio must depend largely upon its environments and upon its policy. It must be made to conform to both these elements, but I believe that the equipment of the studio also should be wide, large, broad —that every studio ought to be fitted to do larger and better work than the largest and best that it expects to be called upon to produce under the skylight. I believe also that every studio should be fitted for out-of-door photography, for indoor work, at home portraiture, and everything of that kind.

There are few communities in which a sufficient amount of any one kind of work can be relied upon to make specialization profitable in any line. Therefore I say they must be equipped to do everything that comes to them or that they can bring to themselves—everything in the line of photography that can be gotten in our several communities. Now, these questions of location, policy, equipment, etc., having been settled, we are yet at the very beginning of our business. We have invested time, brains, strength, energy and money, perhaps all we have of the last named, without one single cent of return. We open our doors and expect the public to do the rest. Perhaps our equipment is paid for, but perhaps, as it sometimes happens, I know, it is not, and we start in debt. I believe this is one of our first fatal errors and I believe it is logically and quickly followed by the next, and we mortgage every available asset to the muzzle and sign away our independence. What, then, must we do to make our business bring to us the best possible returns? I believe the answer is a simpler one than we have been led to think. I know the demonstrations of it are being worked out about us in almost every community in the land. We must study and profit by the experience of other business men in other lines of business all about us in the world. Other business differs from ours in no essential particular. They buy, create, manufacture or produce to sell again. We do the same. They must pay the costs of running their business, we also have to meet those expenditures. They find a market for their wares—a profitable market—even though in many cases those wares are luxuries far more pronounced than ours. How do they do it? By the strictest observance of business methods in every step of their establishment; by care in the purchase of stock and materials, buying at the lowest cash prices and discounting their bills; by economy of production, safeguarding against losses, damage and spoilage at every step of manufacture; by judicious

advertising, keeping their wares constantly before the public and creating or stimulating in the public mind an interest and desire for these wares. By these and a hundred other different ways that are applicable to the photographic studio as well as to any other business in the land.

History shows conclusively that the beginning of the tremendous fortunes that threaten the national prosperity to-day were laid in just such business methods as I have outlined. It also shows us how, when these business methods are applied to the small, insignificant business, it broadens and strengthens and gathers to itself a new impetus. We have to look at the prosperous department store upon our own block and remember how only a few short years ago it was but a dingy little shop, its principal stock in trade being made up of pins, needles, handkerchiefs and notions; or to investigate the credit of the bookstore on the corner with its long lines of stationery and fancy goods and novelties, and ask ourselves the question: How long is it, Mr. Proprietor, since your entire business was represented by a newspaper route and your office and building represented by a portable stand upon the street curb; or to look upon a fruit store with its display of alluring goods and remember when its proprietor pushed about the streets, himself between the handles of the push-cart, every ounce of goods that he possessed in the world, and peddled them to us from door to door; to be convinced that these business methods may be successful, even in small, insignificant businesses. But with it all we must never lose sight of this fact, that no matter what methods we adopt, all this will avail us little unless they are accompanied by untiring watchfulness and supervision. To paraphrase a well-known saying, I should put it in this way: "Eternal vigilance is the price of profit in business;" and that is the price that we, as photographers, must pay for our profit in just the same way that other successful business men in the world about us pay it, and pay it gladly for the profit that they make out of their businesses.

Now let us briefly look at some of the conditions that will prevail and obtain in a successful photographic studio when these methods should have been adopted. We should find, first of all, that the studio is marked by absolute cleanliness—the kind that sweeps the dirt out of the corners rather than into them, the soap-and-water kind applied with elbow grease, the kind of cleanliness that is next to godliness; then we shall find that simplicity is a characteristic of the studio. It goes without saying that every one of our studios must be made as attractive as possible, both outside and in, and I believe this is almost always best accomplished by simplicity of treatment—it is not expensive and it is always effective. Few pictures, I think, rather than many, are to be desired either in the showcase or reception room, and the latter I am of opinion should be almost nothing rather than the portrait work of the studio. Samples should be kept out of sight in drawers and so classified that any style can readily be found when desired. Everything about the studio should be planned for convenience—dressing room and skylight—not only for the convenience and comforts of the sitter, but more important, I think, for the convenience of the operator, whether he be yourself or a paid assistant. Skylight and workrooms should be planned to minimize labor at every step and all labor-saving devices that have proven practical should, I think, be put into operation—artificial light for exposing and printing in dull weather when specially rushed with work, should always be available, and the entire establishment should carry the trade-mark of modern, up-to-date completeness.

Of the studio personnel there is much that may be said, for on it much depends: uprightness, patience, good manners are absolute essentials under the most trying circumstances. Next to the business manager, unless they be one and the same, I believe the person in charge of the reception room should be, and usually is, its most important agent towards success. You all know the qualifications of a receptionist. We recognize them when we see them. They are many and varied, and I am very glad to note that there will be an opportunity at a later session of this convention for a discussion of this very important question. The rest of the staff, whether it be large or small, should be made up of people ready and willing to perform their duties promptly, quietly and well. There should be no friction among our employes; they should be promptly on hand at the beginning of the day and should remain at their post until the close of the day's work. If obliged to work overtime they should receive extra compensation, and if Sunday work is insisted upon they should be paid accordingly, and should have extra time during the week for change and rest. These things, I think, are important, but there must be a genuine spirit of helpfulness throughout the entire establishment if it is to spell out success for us in the end, and this can only be obtained by fair play all around. With a staff thus constituted and a studio thus equipped we should obtain a maximum of production at a minimum of cost, and by minimum of cost I do not mean at niggardly wages, for we cannot expect to get the kind of help that is necessary to do our work in this way by paying poor wages for it, but we should and must insist upon an equivalent service in return. I repeat, then, that the staff of the studio is a very important consideration in the business of which we are talking, and now as to the business management.

You may smile if you like, but I insist that

there must be a general business manager in every successful photographic business. I care not if he be also the proprietor, the receptionist, the operator, retoucher, printer, mounter, spotter and the boy to tie up and deliver the package—he must, first, last and always, be a business manager. Whatever else his duties may be, if he performs the work of the business end of the enterprise well and properly, he will be not only the busiest but the most indispensable member of the entire staff. There must be cool and clear-sighted business management or there will be no success, and if the proprietor is not endowed with the business faculty I believe he will do well to confine his work to the skylight and the workrooms, and allow his wife, if he has one—and if he has not, I advise him to get married and to get one (Laughter), or a salaried assistant to run his business for him. I believe there is more money in it on this line than on the other. And now, what are some of the things that will come to pass when we shall have adopted all these business methods and shall have put our business upon the same solid foundation that characterized the business of so many other successful people about us in the world? As the most important of all, I believe we should so arrange our financial affairs that we may go into the open market and buy at the lowest cash prices where and what we please. We should also put into operation in our studio some method by which we may keep in close touch with the output day by day, should know exactly what stock of plates, paper, mounts, material, supplies, chemicals and everything of that kind we have on hand, and shall require of our help that they guard continually and carefully against waste and spoilage. A penny saved is a penny earned, and careful attention to this detail alone will oftentimes make the figures on the balance sheet show a very different aspect from what they do at present. It will change them from a disappointing deficit to a healthy credit.

We should be very careful in the purchase of supplies, avoid over-stocking simply because a line is cheap; we should know what we want and how much of it, and going into the market with our money in our pockets or in the bank to discount our bills we should find our stock account a far less important item than it is to-day. We should be prompt in our deliveries and careful in the keeping of our every promise. We should hold dearly to our hearts our business integrity, our business honor and the professional etiquette, for without those attributes we may better close our doors. We should find out some way by which we may keep track of the absolute gross cost of running our business week by week at every season of the year under ordinary conditions, and we should also be able to tell at any time whether the work of a given period was or was not turned out under ordinary conditions. We should know exactly our receipts and our charges on the books, and we should make very careful and frequent comparisons of these figures one with the other. It is only in such a way as this that we can ever arrive at a solution of the problem as to "where we are at;" it is only in this way that other successful businesses know their financial standings at any time of the year, and when we as photographers shall have reached the point that we can say, "My business of last month was so much more than of the corresponding month of last year, or so much less," and when we can analyze the reasons and put our finger directly upon the spot that is responsible either for the increase or the decrease in our profits, then we shall be arriving at the time when business methods are helping us materially towards success. In figuring the running expenses of our business we should never forget that such items as rent, taxes, insurance, advertising, help and stock are not the only costs. We must figure in our deterioration charge, we must figure in our percentage of interest on invested capital, and again, we must figure in our own salary at the same rate of payment that it would command in the open market. We should also, when we arrive at this point, come to a higher appreciation of the necessity of publicity, and we should set about finding the best method for use in our own individual cases.

Publicity methods may differ in every individual case, and they should be fitted to the policy, the local conditions, and the pocketbook of each studio; but we must have a broader, wider platform of publicity upon which to stand: our products are luxuries in a sense, and they must be kept constantly before the public eye. The ever-increasing millions that are spent yearly by our prosperous neighbors in other lines in the advertising of articles that are far more luxurious and far less necessary to the welfare of the community than are ours, demonstrates beyond the shadow of a doubt the truth of this statement. I believe it is a waste of good money to put it into any business unless that business is susceptible of, and unless the business proprietor is alive to, the fact that he must keep up a persistent advertising policy of some kind and let us not delude ourselves with the idea that, if we send out once or twice in the year a booklet or an announcement or a circular or a card photograph with our name on the back of it, or what not, that we have adopted a policy of advertising; we have simply sent out a "feeler." A policy of advertising means an enlightened and persistent effort to keep the public need up to the importance of the necessity of ordering and using our products, and it is a thing which we must do if we will get from the public purse the money which is there for us. We have only to pull it

out and it may be ours. In this connection of publicity, it occurs to me that your own Annual—with apologies to the editors and publishers—for the last five years it has been a splendid publication—but I believe there is a broader field of usefulness for it yet. I believe that, if the Association Annual, or at least a supplement of it, were published each year after the convention and directed, not to ourselves as photographers, but to our patrons, it would do a vast deal to raise the standard of photography throughout our land. (Applause.) I believe that, if the articles in the Association Annual were directed plainly and straightly and firmly toward the establishment of this higher appreciation, if its illustrations were reproduced from the work of the members that has been exhibited upon the convention walls and that has actually received the official sanction of the convention, it would be a paying investment for every member of the Photographers' Association of America to issue copies of that supplement broadcast throughout his community with his own imprint upon the cover and the statement that he is a member in good standing of the Photographers' Association of America. (Applause.) I believe also that such a publication should be restricted absolutely to the use of the members, and that no one other than a member of the Association should by any means be able to buy editions of this book, but issued in that way, whether his own work appeared in it as a part of the illustrations or not, I think it makes no difference—it will carry the representative work of the year—it will show his patrons that good photography is the kind of photography that he stands for because he puts out the money, time and energy to come to these conventions, to belong to the Association, and to do his share toward meeting them in their demand for the best of its kind. In the hope, therefore, that some day we may see this evolution of the Association Annual, I make these suggestions.

All these things lead me to repeat that the business end of photography is, without exception, in my mind, the most important end, because if its bills are not kept paid, if its credit is not thoroughly established, no amount of artistic or technical skill will avail to keep the studio afloat. Now, as we grow in business proficiency we should become better citizens, because we should identify ourselves with our local boards of trade and other civic organizations and should become acquainted with our townspeople and business neighbors. Every step that we as members of a community take toward the betterment of the conditions in that community, so much will those steps reflect upon the betterment of our own conditions as members of that community, and becoming acquainted with our business friends, with our business acquaintances and townspeople, will help us materially in many ways, and especially will it help us, I believe—I am treading on very thin ice now, too—especially will it help us to arrest the inroads into the legitimate business of the studio by the ever-present amateur. We have but to look at the magnificent exhibits of the second American Salon on the floor above to know his power. Shall we allow him to enter our best families, and by reason of his better work in interior photography, and allow him to take away from us this part of our business? We have only to note the conditions that exist in any large town or city in this country to see that this is but his first step and that it is followed very quickly by his entry into the field as a full-fledged professional photographer, and direct competitor meeting us on our own lines; and, mind you, too, that when he takes this step he has nine times out of ten snatched all the best trade of the locality for his studio because of his broader acquaintance, because of his genial personality, because of his power to mix with people, and because of his standing in the field of work that he has started in. I believe, Mr. President, that this is one of the business questions that we photographers have to meet and face in the near future. I believe, too, that there is only one way we shall have to meet it and face it: we should meet him on his own ground and fight him with his own weapon; in other words, we must qualify to do as good or better photography than he, and not satisfied with this, we must reach out for it and get for ourselves every single bit of photographic work that naturally develops or that can be brought into the studio. We must grasp it and bring it into our own workshop if we will succeed. Failing in this, I believe that we fail in safeguarding our business against attack at one of its most vulnerable points. Now, all those things that I have outlined to you must be worked out by the effort of the individual studio; each for himself, and it is worthy of note, too, that the results arising from adopting the suggestions that I have outlined will be found to affect the profits that come in from the investment of the money part of our capital, but more especially from that part of our capital which is represented by brains, strength, energy and personality. In these I believe there is a distinct note of encouragement for the photographer who is long on the business and but short on the financial end of photography.

There are many other questions of vital interest to our craft that may never be settled by the work of the individual studio; they must have the hearty, careful, persevering attention of groups of studios, or of larger organized bodies of craftsmen; such questions as the maintenance of price and quality, the abolition of the fakir and the rate-cutter, the betterment of local conditions generally, and the ever-present questions of copyright and insurance. These things must be boiled down,

discussed, argued, compared and legislated by larger bodies of men than the individual studio represents. These questions come naturally under the discussion of our local sections, if you may call them such, or of our state organizations of photographers, and in that discussion these organizations ought to have the support of every man living in the territory that they cover, and then, as a supplement to the work of the state associations and local bodies of photographers, I believe that your own Association should have the natural rounding out and fulfilment of the active work of the business photographer in the betterment of general conditions. The history of this Association is one of progress and achievement. Active membership in it has meant, for many a man, who, to-day, without it, would be an unknown plodder among his craftsmen, success and profit. Active membership in it in the future will mean success and profit to many a man who is to-day an unknown plodder among us. He may be helped not only by the help that he gets from this Association, but he will help himself while he helps the Association. And then, when all these things have come, what are we to expect? A fair, honest, healthy profit upon our investment, a profit that shall pay us back adequate returns upon every portion of that investment—every dollar of money, every ounce of energy expended, and that shall leave us an ever-increasing fund upon which to fall back in later years, and as this condition of material prosperity approaches, we shall find our profession advanced to a position of recognized importance in the business world, and we ourselves shall occupy places higher in its esteem and good fellowship. We are distinctly on the uptrack, and every year is adding to the list new names of successful business photographers. May the list grow longer and stronger until we may reach the point when there shall be found in this entire land in our craft none but business photographers. (Applause.)

PRESIDENT HEARN: According to the suggestion made yesterday, it is desired that our members will at all times avail themselves of discussion on any paper or talk that has been prepared for you that is in line with the subject in hand. Now, in this case any discussion is in order that would have a bearing upon the idea of Mr. Scandlin.

MR. GIFFIN: I move that a special supplement be printed of the verv good talk we have had from Mr. Scandlin this morning and distributed among our members. (Motion seconded.)

MR. HERRICK: I wish to add to that supplement in some way so that the photographer would know how to make these changes and get the money. Mr. Scandlin's talk is very good. I think the majority of us believe what he said, and probably knew it beforehand. But the point is to advance the interests of the photographer and put us in the way of getting these results. He wants to tell us how to get the money to pay the bills promptly. I should like to hear some good thorough business man get up and tell his methods, better than to hear Mr. Scandlin say how it could be done and is not done.

PRESIDENT HEARN: Kindly state your amendment.

MR. HERRICK: I should like to have some business man follow on that proposition of Mr. Scandlin, and tell us how to do it.

MR. GIFFIN: I wish to withdraw my motion, inasmuch as that article will be published in the different journals throughout the country.

MR. HOLDEN: There was a little matter that was brought up yesterday immediately after the motion to adjourn. It is concerning the President's recommendations. He made some very splendid recommendations as to the creation of an academic standing for the members of this Association being granted to them upon having arrived at a certain dignity of workmanship. I move now, Mr. President, that a committee be appointed to take up the question of the President's recommendations of yesterday and also to take up the questions as brought forward by Mr. Scandlin in his address. (Applause.) (Motion seconded.)

MR. JULIUS M. MERICK: I rise to a point of order. The question under discussion now is the business side of photography. This motion enters into the professional side.

MR. LIFSHY: That motion covers both questions.

MR. HOLDEN: The idea of making that motion was this, there is much for you to listen to of value. If this matter is placed in the hands of a committee to-

day they will take action on it as soon as possible and we shall get the benefit of an argument out of what they have to bring forward before you perhaps tomorrow.

MR. F. DUNDAS TODD: The subject is warm right now. Serve it up to us and let us have a feast. You are all practical business men and you are supposed to know how to make money in your business. Get up and tell us how to do it. Will the men who can do this tell us what they do. Mr. Scandlin has given you general principles. Will the men who make the practical application tell us how you apply it, right now, while the subject is hot? (Applause.)

PRESIDENT HEARN: There is a motion before the house which has been seconded. (Motion stated, put to vote and carried.)

I will appoint Messrs. Holden, Core and Lively.

MR. CORE: I should like to be excused. I do not believe I will be able to serve.

PRESIDENT HEARN: I will appoint Mr. Goldensky in that case.

MR. HERRICK: I merely wanted to have some one follow out this idea expressed by Mr. Todd. I should like to hear somebody who is a practical money-making man, get up and tell us how to make it. We all have different ideas. No one man's ideas can govern in all localities. I should like to find the other man's way of doing it.

PRESIDENT HEARN: What is your way?

Mr. Herrick: That is forcing me in, but I won't back down. I believe every photographer starts in at his front door to make money, and I believe his showcase is the first thing he wants to attend to. I don't do it, but I think you ought to do it. Change your showcase as often as possible, keep it clean and polished. Your stairway is the next main feature. Have that look inviting to the ladies so they do not think they are going to dirty their skirts as they come up. Have your reception rooms just as clean as soap and water and muscle can make them; and when you get inside I don't believe the proprietor wants to meet his subjects; I believe he should have a reception lady, and as smooth a one as he can get. I believe she will pull more money out of anyone coming into the studio than he can. If there is only the man at the desk and a person coming in wants a four-dollar picture and he tries to get him to take a five-dollar picture, that man thinks he is trying to work him—and he probably is; but a clever lady can raise subjects from three dollars to five dollars a dozen, and that is what you want. Whenever you get angry you lose your prestige and your custom. Never let a customer go to another studio. I don't believe in cutting prices, but if a customer wants a picture at a lower price, you should have another card you could show him at that price. He will have twelve good advertisements to pass around to his friends. Not only that, but that man has other members of the family and every man in this world has some friends, and when that friend wants a picture he will send him where he got his picture. I think you can see the point there. The idea of system cannot be ignored. Your system wants to be thorough and one that will enable you to check your paper back on your printer just as well as it will enable you to check a dozen pictures back on your customer who gets them. You will have to study out your own system, but it can be done. Before I put in a system it used to take three times the amount of platinum to tone the same amount of pictures that it does now, simply because they know I am watching and they don't know how far I can go. Another thing: when a customer comes into your operating room you never want to lose your temper in any way, shape or manner. Treat them always courteously, no matter whether wealthy or poor. Have them go out with a friendly, homely feeling rather as if they had been in a home than in a studio. In furnishing a studio try to give it a homelike appearance, not too nice, but so they will have the look they would have at home. Pay your bills promptly—there comes the question of money again. It is pretty hard to pay your bills promptly unless you have the money, but if you start in that way you very often can carry it through. If you tell your stockkeeper that you will pay him on a certain day, go and pawn your shirt if you have to; then your credit is good at any time and you can get better discounts. I don't believe in dividing too much, because you can go to a man and say, "I will throw you all my trade if you will give me the best discounts that can be gotten." I believe I buy my stock cheaper than any man in this room, because on the first of every month the man gets his check and he knows it. Everything Mr. Scandlin said was right. It is for you to make application. If a man is in a poor locality and cannot get out, he cannot go into a good locality until he gets the money to go. Watch the business from the front door until the picture is delivered. If there is anything else I can answer, ask me the question. (Applause.)

MR. ROCKWOOD: Mr. President, you asked me to prepare a little paper or talk on a subject bearing so directly upon this that I thought perhaps if there was time —it would probably take eight or ten minutes for me to read that paper now— I might do so, and for the further reason that it may not be possible for me to remain here until Friday afternoon. It bears directly upon the line of the discussion now before us.

PRESIDENT HEARN: Is it the pleasure of the convention that the programme shall be changed to that extent?

(Motion made that programme be changed as suggested. Seconded.)

Kindly take the stand if you will, Mr. Rockwood.

Address by Mr. Rockwood.

There has been so much discussion of late, both on the platform and in the magazines, concerning "Methods in Business," that whatever I might now say would impress you as a "too oft told tale," and the suggestions have been so various that there are but a few novel ideas now to put before you. Furthermore, one is handicapped by the truthfulness of a recent remark in Mr. Abel's *Photographer*, that "photographers are in the main a happy-go-lucky crowd who listen to all kinds of advice and then go about their own business as before. This is too true and it is like pouring water on a duck's back; it won't soak in.

Business methods vary with locality and circumstances, and no formula will reach the requirements of earnest provincial photographers and the well-known metropolitan workers.

For the strictly business photographer, who is seeking both fame and bread and butter, I suggest that we first look at the front door and the showcase. In a word, my view is to have quality and let quantity go hang. One good picture of an interesting subject is worth more than a dozen of mediocrities.

Assuming that the virtue of neatness and good housekeeping need not be emphasized, we enter the reception room, which is the open or the closed door to business success. Here should be just the reverse of what has been the practice of the average photographer. Nothing on earth is less interesting than a collection of photographs, even where many are meritorious, of the ordinary human face. Have a few of your best pictures in portfolios, on a centre table, each style and price by itself and *not another print in sight*, except a few of your most interesting subjects carefully framed and hung on the walls, the fewer the better. *Never hang or exhibit a picture which does not interest yourself.* Here also steps in that marvelous development, the reception room attendant, who should be in all senses of the word a "perfect lady." With her rests the success or failure, I might say, of the business, assuming of course that good photography is the rule of the establishment. A woman of fair education, refinement and tact will succeed better than any man, however skilful he may be as a salesman. Let such a party receive a good salary *and a commission;* however small that commission may be, it is everlastingly influencing, perhaps unconsciously, every transaction or sale in the studio. As I said on a previous occasion, I one season kept tab on the sales of one of my young ladies and calculated that the increase of sales for the season by this keen-witted, adroit girl was between three or four thousand dollars over the amounts intended by the patrons. These bright women are sometimes hard to get and difficult to retain, as they will get *"the marrying habit."* So many women go into business with the avowed idea of making it a stepping stone to matrimony. Women are deft of touch, physically and mentally, have a wonderful adaptation to detail and are far more conscientious in business as to duty and fidelity than men. They rarely watch the clock. I have employed men who enabled me to set my watch with unfailing confidence twice a day, five minutes after nine and one minute before five.

Whoever presides in the studio or skylight should work in perfect harmony and accord with the manager of the reception room and ordinarily it is wise to accept her suggestions. She almost always correctly diagnoses customers and their pocket-books. Whether the presiding genius of the studio is the proprietor or an employe, let him do nothing perfunctory.

Put your whole self in every picture you make. Let your subjects realize that you are in dead earnest to make the most of nature's possibilities. As I have said to you before, Photography is a matter of intelligence, earnestness and care, if there can be added to these artistic taste and knowledge, good business qualifications and general culture, we have a combination and result rarely found in the art.

One might say there are myriads of Photographers, or, that Photographers are rare. There is no occupation so crowded and none where there is so much room. Even in that great Reservoir of Humanity, the City of New York, with its four million of inhabitants, one can count on his fingers the men who combine force, knowledge, business ability and artistic culture. I claim that there is no occupation—call it art, science, profession, or what not, which needs for pronounced success more thorough preparation and equipment than the Photographer.

Two diverse propositions work to the injury of our art in the good esteem of the public. One is the idea that the art is so simple as not to need thoroughness in mental equipment. The other that its votaries are on the plane of the artist, poet, and sculptor and that a fairly good chemical and mechanical production must be valued as a stroke of genius!

Photography is a mechanical or fine art *just as its representatives* make it. If a man has only technique, his work shows the machine made map of the subject photographed; if he has imagination and artistic culture every line in his picture will suggest the well known Hogarth lines which combine beauty and grace. Then his creation may attain to the claims of art. I was asked once to sum up the elements of a good Photographer; I replied the ideal photographer should have the wisdom of a Bacon, the humor of a Dickens and the art of a Rembrandt. (Applause.)

MR. STAFFORD, Chicago: I should like to have Mr. Rockwood tell us what he considers a fair commission to the reception room lady in connection with salary, and also the commission for the operator.

MR. ROCKWOOD: It depends, of course, upon the business. In one of my establishments we do over $30,000 a year; two per cent. of that would be $600. In another one of the smaller places where the receipts are only about $8000 or $9,000, five per cent. would be more in accord with the proper adjustment of things. I have gone from one to five per cent, paid them altogether from the receipts. I would know what my receipts were to be. I have had some very interesting incidents in connection with that. When I first instituted it with one young lady I had in the office, I said, "You are so very earnest that you should be benefited by your intense earnestness in your business. You have never asked me for an increase in wages, but I am now going to give it to you in another form. I propose to give it to you in the way of commission." She came around at the close of the week and she said: "Governor, you made an awful mistake." I said "How?" "Why," she said, "what do you suppose my commission is this week?" I said "I don't know, my dear, I hope it is considerable." "Why," she said, "I dare not tell you because I know you will feel badly over it." I said, "No, the larger it is, the better I will feel, because it is certainly an indication of the business." She said, "My commission this week is $15. Now it is not too late for you to alter that, and do just what you please about it." I said, "Can't you see yourself that a great deal of the increase in the business during this week has been through your intense earnestness? I saw you with that lady day before yesterday. She came in and wanted a little copy made, and said she wanted to spend three dollars or four dollars; when she went down stairs you had her booked for a hundred dollar miniature. That was my gain." One of my operatives came to me one day and made almost the same remark. He said, "Governor, I think you made a mistake giving me such a large amount." No, it was the end of the month. "I have enough commission out of this month's receipts to pay my rent." "Well," I said, "my boy, I am awfully glad of it, because I see a very marked improvement in your work, and in the receipts of the business."

I give you this incident to confirm the impression I hope you may have received and entertain that the best way to transact your business is to be economical all the time, but generous in that way. The individual who has the slightest commission—it doesn't matter how small, if it is only one cent in a dollar, they are working all the time, perhaps unconsciously, but earnestly, to get that penny. They know at the end of the day that those pennies amount to a good deal.

MR. HERRICK: I also am giving commissions, but in a different way and instead of giving them weekly, I first figure my business out. I find what it took to run that business, then I come to a percentage over and above that amount at the end of the year. I find that to work very successfully indeed.

MR. ROCKWOOD: The matter of detail is for each one to establish for themselves.

MR. HERRICK: In that way if your bus-

iness does not increase, you haven't so much to pay; not only that, but it keeps them with you a year (Applause and laughter.)

MR. ROCKWOOD: I don't have to do that. I have in my employ now two who have been with me for 36 years. (Applause.) One was with me for thirty-nine years and six months. We found him dead in the street. He would have finished up his forty years and probably been with me yet. Of course, that occurred ten years ago. I never had a person go away from me since I have been in business in fifty-two years, unless I wanted to get rid of him (Applause). The terms are for life and there are no mitigating circumstances. (Laughter) One of my witty boys, the one who has been with me thirty-six years. God bless him, —just like my son,— a good many years ago wrote up on a little card over the mounting room, "Who enters here leaves matrimony behind."

MR. HERRICK: I didn't mean that that was merely to keep them there because I have only been in business eight years and one has been with me seven years, another five and another four, so I didn't mean it that way. Still it is a good thing to have.

MR. ROCKWOOD: I have employees who have been with me five or ten or twenty years. Of course, in starting my last establishment I had to get new stuff, but one of them has worked with me on and off for twenty-five years. If your employees are treated as you would your family, they will venerate you and regard you just as they do me. I am called the Governor by everybody, and there is not one in my establishments that I have not at times taken into my home. We have a regular gathering every year at my house; all the employees, both those at present and those who have married off and so on, come to it. All these social amenities I believe in. Others don't. I believe in treating my people as if they were part of my own family, with the same affection, courtesy and interest. That is my standard; a good many differ from it. (Applause.)

MR. WILSON: I have made it a point to stand for photography. A photographer whom I have known all my life, said to me, "I never, when I am away from home, say I am a photographer." I said I did not agree with you." If he wasn't proud of it he should do something else. (Applause.) We do it, I don't care whether it sounds egotistical, but ask in Savannah if they know Wilson, and they do, and they do all through the State. I have made it a point—I don't care what the affair is, but I get there or send a man there and make a picture, and they most all come in the studio to see the picture. I have interested the city officials on the ground that it advertises Savannah. I have the support of the Mayor. I have the influence of the Chamber of Commerce, and other citizens. There are a number of conventions that meet there, and on their programs you see a special appointment for a photograph by Wilson. I have never failed in getting an order of at least one-third of the convention amounting to from $50 to $300 or $400 for one or two exposures made in a few minutes. When they come in your chances are good to make something else. They are men busy in life. You photograph them in the convention, they want a picture to take home, and when they come in you photograph them (Applause).

I was elected at the Convention in Boston last year as Secretary. I went home with the thought of filling the office worthily. One of my employes decided to go into business and left me. About that time a very important investment I had in an automobile business needed attention and seemed on the verge of toppling. The directors asked me to step in. Then I lost my assistant manager by the death of his wife. He was a man from the West and he had to go out there again. I did get out of the automobile business fifty days later. I immediately advised the President, and he was kind

in insisting that I retain the office. I was afraid of making a fizzle of it, and insisted on the resignation, and it was for that reason and that alone. To-day I am engaged in photography more than ever, because I perhaps put more work in it. I have to do more of it. I conduct my own studio. I disposed of my automobile business, and I am glad to see that the President succeeded in getting a man who to my knowledge and the lack of complaint in this Convention, has filled the office so successfully that I am satisfied he will be elected this time (Applause).

MR. HOLDEN: We often lose sight of little things. When people meet us on the street and say, "By the way, I am coming down to your studio so and so and so," we ought to follow it up, like the insurance men. We should take a little jot book and enter that person's name, and even ask for his address, and follow after them with whatever advertising matter we are accustomed to use. In that way see that we can constantly keep them in mind that they promised to come to the studio some time before long. The insurance men, I find, if they discover anyone that they have an inkling is seeking insurance or mention anything about taking some insurance, they never let it drop, but follow them until they get the insurance. I think we should do that. (Applause.)

Remarks by Mr. Foley.

MR. CHAIRMAN, LADIES AND GENTLEGENTLEMEN: In line with the remarks that Mr. Scandlin made, it seems to me that business getting is the subject, but it also seems that you have fallen away somewhat from something practical to aid the professional photographer. Mr. Scandlin made one remark that caught my attention very quickly, and that was the present and increasing competition of the amateur. I think that the convention ought not to adjourn without at least giving that phase of the question some consideration. Now, gentlemen, before you you may behold the results of the competition of the amateur. Some eight or ten years ago I first became interested in photography through becoming an amateur, and two years ago I entered the field and made it a business. Now after being in the business I recognized that the competition of the amateur photographer seems to be unreasonable. As an amateur I never competed with a professional. I never would do it. I considered that that man had a living to make, he had expenses to pay and I considered I was being paid for my services in my special field of endeavor, and consequently I should not take from him a business that was legitimately and honestly his. Now of course the question resolves itself into what is practicable. What would be in harmony with both the amateur and the professional. Now I have a plan to offer, Mr. Chairman, and ladies and gentlemen, and that plan consists of merely grading the price list that would favor the profession and not hurt the amateur. Now the idea is right here in a nutshell. Now for example suppose you have a little plumbing work to do at your home, and you don't wish to employ the services of a plumber. What do you do? You probably figure out the supplies that you need and you go to a stock house who sells plumbing supplies, and you try to purchase there the material. You find after you get there that the stock dealer asks you whether you are a professional plumber or not, and if you are not, you pay a retail price; if you are a professional plumber you receive your material at a discount of some 24 to 40 per cent. from what the ordinary public would buy it. Now probably Mr. Eastman and the so-called photographic trust would object to that. I don't believe there is a trust in photography. (Applause.) My suggestion is this: Supposing a man buys $3 worth of supplies; if he is an amateur he pays $3.25, but if he is a professional he pays $2.75. The difference could be adjusted so that the professional could have a slight advantage, but it would be sufficient to enable him to make a living profit on his work and I think that if the organization took some ways and means of trying to bring that about, of trying to get the manufacturer to co-operate with them, not to antagonize but to co-operate. In my estimation co-operation is going to be the future success of all mankind. Why should we not co-operate in this way? You may say possibly that the amateur in that way would kick. His business amounts to the greatest part of the business. I think that where an amateur is employed in some occupation and making a living at that he follows photography for a pastime, and a few additional dollars he would pay for supplies would not in any way prevent him from following his hobby, and I don't believe that the amateur would cease buying supplies, and I think that working along these lines, if you were to do something to get the manufacturers to co-operate with us, that we would be more successful in our business.

Another matter: the stock house oftentimes

will enter into direct competition with the professional photographer. Some gentleman wishing to have some photographic work done goes to a stock house and he gets a price which is far below that of the professional photographer because some stock houses make it a business of giving amateurs work of that kind, knowing that they can do it cheaper than the professional, and in that way they still make a profit from the transaction. I think such work as that should be referred to the professional photographer. I don't believe that the stock house ought to do work that it takes away from the professional photographer. (Applause.)

I have become one of you. I am willing to try to become a good photographer. I resigned a good position in order to become a photographer. The possibilities of photography and its beauties as an occupation appealed to me, so I did not keep my position, but I became a professional, and I think that if any man who comes among you in that way and graduates from the ranks of the amateur and is willing to do it in the right way—I think he should be given the welcome that he ought to receive, and that no amateur who cares to be worthily called an amateur should try to come into competition with the professional photographer. I thank you very much. (Applause.)

Mr Wilson (Ga.): I don't like to do all the talking this morning, but I have something to say in reply to that. I want to say how I have handled amateurs. I was one of the first men in the city who recognized the amateur about the time they put up little signs in the parks, "No amateurs and yellow dogs allowed." We took them in and encouraged them in this way. Having had a great deal of experience in the various athletic sports we learned that an amateur was an amateur so long as he was, and that when he took monev for his work he was then over the line. Now I impressed upon them that one fact, that while you are doing this, if you can afford it, it is a pleasure, we will be glad to help you. I have seen some of the best men come from those ranks. We say, "Friends, if you want to come into the profession, come into the open." I made friends with the officials of the city, and if I heard of a man selling pictures we would say, "Go out and take your license. We are ready to compete." That was the first move. When they established a club I gave any assistance I could. I helped them in enlarging. They have an enlarging camera, and I went there and did some enlarging. I always worked that one idea there: an amateur or a professional. When one of them took a dollar I guarantee the rest of them didn't know it. They would boost for you and work with you, and also impress upon their friends that a photograph, after all, was more than what the stock cost, and "when you want something good, we have a skylight out here; go to Wilson's." (Laughter.) They have educated the public very largely in our community. They have helped the professional photographer keep the amateurs in line, and the professional photographers are helping them. That has been our plan. So far as price is concerned, that is very good; if it could be so arranged that would be very nice, but it is a very hard matter to go into that line. As far as finishing is concerned we do finishing for amateurs and charge them a goodly price and tell them we do it as an accommodation at that; if they are amateurs and want the full benefit of their business, do their own developing and get the benefit of the thing.

PRESIDENT HEARN: We have had a full discussion on this. Mr. Todd is next on the program, and although it is pretty late Mr. Todd's theme is so very important that I should like to have him come in before we adjourn.

Address of F. Dundas Todd.

The Cost of Manufacturing in the Photographic Studio.

It may safely be said that the average photographer does not really know why he is in business. I know what I am talking about, because for several years I have frequently asked individual men why they were photographers and what they were in business for, and only once or twice have I been told by the man I spoke to that he was in business for the money he could make out of it. The others informed me that they became photographers because they liked it, or thought they would, because they drifted into it, and so on. The men I find who realize that they are in business for profit make a pretty fair living out of their calling, but the majority of professional photographers, not only in this country but the world over, in my estimation get very inadequate returns for their services. The reason is not far to seek. The big money to-day is to be found in the highly organized machine industries, where the various operations are largely mechanical. Combinations of capital eliminate competition and insure much higher dividends. The worker has seen the benefit of combination and in turn has increased his income to a more limited extent by the organization of trades unions.

Such combinations of workers are nothing new in the history of the world as we find that for a thousand years the workers of the Grecian and Roman Empires were organized so perfectly that the labor unions of to-day are a mere nothing as compared with these great

institutions. They were exterminated by military force and church decree in the fourth century, and until recently only the middle class, under the title of professional men, were allowed to combine and limit the numbers of those engaged in their particular calling.

Professional photography in the world to-day occupies a rather unique position. A photographer's studio cannot be called a factory, nor in the strict sense of the word can it be called a profession, neither is it a business where a man buys and sells commodities. I can call it nothing but an occupation. Being outside of what an eminent professor calls the machine process, it can claim no scheme of organization, and as a consequence each studio proprietor really blunders along with his affairs in a very haphazard manner. You will observe I am dealing very gently with the photographer as an individual, in fact I am trying to show that his peculiar lack of business ability is due to the business he is in and not to any failings that are characteristic of the individual. His business up to now has called for antagonism between individuals, and he has suffered not only in his pocket but in his mind as a consequence. I am glad to see a feeling developing among many men that ultimately it will be found more profitable to co-operate than to compete, if it be possible to devise a workable plan.

A photographer is in his way a manufacturer, who ordinarily sells his product direct to the consumer. Since the output is ordinarily a small one, one would naturally assume that the manufacturer would know at least within a few cents the cost of the goods he makes and would take care to sell them at a higher figure so as to get a fair return for his services and his investments. This is not the case, however. For many years I have asked hundreds of photographers to tell me the cost to them of a dozen cabinets, and I have yet to find a dozen men who can tell me. I have heard all kinds of guesses, from 90 cents to $2.50—just think how enormous is the difference between these figures—and yet they are given me by practical men. I am only a theorist, only a poor editor, who has been frequently told by professional photographers that he does not know anything about photography as a business. I am free to confess my ignorance; in fact, I was born that way, but I have never considered ignorance as a crime; it is a misfortune. However, I have frequently tried to escape this calamity by asking for knowledge from professional photographers, and find that, although practical men, they are just as ignorant as I am, and I can say with all confidence that in their case ignorance is a very great calamity indeed.

In one of mv cynical moods I tried to make a definition of a professional photographer, and the best I could do was to describe him as an individual who expected everybody to perform service for him for nothing, but who at the same time was perfectly willing to work for the public at the same price. I won't swear that this definition is strictly correct, but it is true enough to hurt somebody. When a photographer estimates that a dozen cabinets costs him about a dollar he is thinking only of the material he will consume and is not counting one cent for his own and employees' labor, nor for general expenses. But labor is a commodity which is bought and sold like plates, paper and card stock, and therefore must be considered as part of the cost. In the same way rent and taxes and such expenses must be paid for out of the business, must be earned by the business and therefore must be calculated as a part of the cost of every individual print that is turned out of the photographer's studio. Recently a plumber friend of mine told me that in figuring on a job he counted himself as being worth $6 a day, then he added not only the cost of the material, the use of the wagon, the shop rent and similar expenses, but in addition he charged for the time he spent in estimating what he would do the job for. This is business sense and shows why plumbers make money.

I once asked an optician friend of mine how he arrived at the selling price of a pair of spectacles. The cost of the material is rather low and he knew that I knew to a cent just what he paid for it. His answer was very brief: "I consider myself to be worth $2,000 a year and I allot a fair proportion of that sum upon every pair of spectacles that I sell to a customer." This was business sense.

An optician in a country town of less than 2,000 people, you will see, considers that his services to his community are worth $2,000 a year. I wonder how much a photographer living in the same town would consider his services worth. I think he would be very modest and be very thankful if he got a thousand. But I hold that at least ninety per cent. of photographers in this country should earn without difficulty $1,000 a year, but I am sorry to say I don't believe that half of them earn that much. However, for the sake of argument, I am going to assume that a photographer should get $1,000 a year out of his business, and then I will proceed to take an average studio and see if we cannot find out the cost of manufacturing the product that this photographer sells.

Since all money that goes out of the business must be earned by the business we will have to consider every cent that is spent as being an expense. Therefore in figuring out cost we will have to allow for the following items: First, and most important in my estimation, labor, which is supplied principally by the proprietor; then comes material, rent, heat, taxes and insurance, postages, new accessories, studio repairs and general waste.

Last of all, hired labor, if such be employed. Many photographers are assisted by their wives in the studio, and their services must not be considered as worth nothing, but must be allowed for at regular market rates. Some photographers seem to think that they are as badly off as preachers in this respect. You know that when a congregation hires a preacher at $15 per week, if the congregation can scrape it together, this same congregation ordinarily expects to get the services of the preacher's wife at the same time for nothing. I have always considered this as being pretty rough on the preacher's wife, and rather small potatoes for the congregation, and you can just guess what I think of the photographer who gets his wife's services in the studio day after day and figures them as worth nothing at all.

Having learned what expenses must be charged in estimating the cost of work, my next business will be to find some system whereby we can arrive at a fair approximation of the correct answer. I say approximation advisedly, because only one photographer has within a year supplied me with figures that are accurate to the last cent, and I am glad to say that his manufacturing cost gained in a practical way agreed to a cent with my estimate. This was not so bad for a theorist, was it?

I have tackled this problem from two ends. In the first place, I figured up the cost of all the material that enters into the making of a dozen cabinets in an ordinary studio. Here it is. And if at any time you think I am wrong I want you to stop me on the spot. This is a question of fact, and it is up to you to make certain that I have got the facts correctly.

Four plates and developer	$0.31
Proofs	.08
Envelopes and circulars	.02
Retouching one negative	.35
Paper for fifteen prints	.23
Toning chemicals	.10
Mounts for thirteen prints	.25
Tissue enclosures	.05
Total	$1.40

If we deduct the cost of retouching the material used costs $1.05, and I wish to draw your attention particularly to the fact that no allowance is here made for re-sittings and only for a small waste of material, both of which cost a great deal more than the average photographer ever suspects. About ten years ago many of you will remember that I tackled this very same problem and at that time I found the cost of the material used in a dozen cabinets amounted to 60 cents. This means an increase of cost of 66 per cent. At first blush this increase is startling and I find it is due to more plates being used for each sitter, more expensive toning chemicals, more expensive mounts and in the use of enclosures for the finished prints.

The cost of material you will thus see is a fluctuating expense and depends practically on the amount of business done. If there are no orders for pictures then there will be no expense incurred for material. It is different, however, with the other expenses such as rent, salaries, etc., which must be met day by day whether sitters come or not, if the photographer is to stay in business. I have had much correspondence with many photographers for nearly a year trying to discover what these constant or overhead expenses really amount to, but find it very difficult to secure exact figures. Even when I had found them, then came the problem how to apportion them among the various departments. For instance, the studio may be roughly divided into reception room, operating room, and printing room, and in order to secure a fair estimate of the cost of each department we must charge against them a fair proportion of the rent, heat, taxes, repairs, salaries, etc. To make matters more complicated, in the majority of studios an assistant rarely gives his services to only one department. The printer may also be the retoucher, or he may assist the operator while the latter and the reception room lady divide the retouching between them. To unravel such a complicated problem one would require to get a statement from a rather large establishment where each assistant is confined to only one kind of work, and from such figures one could arrive at the data on a percentage basis. I will give you what figures I have secured, and then show you the conclusions I have arrived at, and then it will be for you to say whether or not my estimates are approximately correct.

Out of all the figures provided me by various photographers I have compiled the following schedule of overhead expenses for an ordinary gallery employing a printer and having the retouching done outside. Again I ask you to stop me at once if you take exceptions to my estimate. What is wanted is facts, not notions.

Rent	$250.00
Heat	50.00
Taxes and insurance	15.00
Postage	35.00
New accessories, studio repairs and general waste	250.00
Assistant	500.00
Owner's salary	1,000.00
Total	$2,100.00

Now don't you see that every day in the week, including Sundays, whether sitters come in or not, this photographer has got to find $6.00. If it has not come in over the desk

that day he has got to dig into his pockets and find some cash that came in the day before or the week before, but find it he must if he wants to stay in business. If he has only one sitter at $3.00 his dozen pictures that day cost him $6.00 plus material and retouching, or $7.14 in all. If he had five sitters at $3.00 his pictures in all cost him $7.00 for material and retouching and $6.00 for general expenses, or a total of $13.00. Total receipts being $15.00, he would have a profitable day's business, but I am afraid the surplus, $2.00, might be swallowed up next day if it rained, so we must judge photography by the year. Having got some figures to go upon we can now do a little calculation as to how many sitters must patronize the gallery to make it a paying proposition. It all depends on the price. Some men offer cabinets at $3.00 per dozen, and we find that at this price at least 1,300 sittings must be made, thus:

Receipts, 1,300 at $3.00		$3,900.00
Overhead expenses	$2,100.00	
1,300 at $1.40	1,820.00	
Total	$3,920.00	

At $4.00 a dozen, eight hundred sittings will be enough, at $5.00 about 650, at $2.50 there must be two thousand sittings, and I am informed that more help and more space would be needed with more than two thousand sittings, so the limit, I think, has been reached when we consider cabinets at $2.50 per dozen. Right here I want to point out that it is evident that there is a dead loss in the ordinary gallery in making a cheap line of cabinets at $2.00 or even $2.50 a dozen.

I have shown how many sitters must patronize a photographer at various prices in order that he make an income of $1,000 a year. But is it possible to get a sufficient number of patrons to enter the average gallery? To me that is a most important question, yet I find it absolutely neglected. Let us see the possibilities. Photographers are fairly numerous in this country; in fact, there is generally one to every 3,500 or 4,000 people. Such evidence as I can secure indicates that only about 15 per cent. of the population are photographed in any one year, or, in other words, the average photographer makes from 600 to 700 sittings annually. I have discussed the question with all grades of photographers, with men who get $3.00 a dozen to those who get $15.00 a dozen, and find the result is generally the same. I am talking to practical men and I am ready for correction if I have made an incorrect statement.

Here let me give figures form a country photographer doing all his own work except retouching.

Total cash received		$2,188.76
Total stock used	$678.72	
General expenses including retouching	518.93	
		1,197.65
Net income of owner		$991.11

He made 450 sittings at from $2 to $10 per dozen. The cost of material per dozen was $1.40, including retouching it was $1.85. As his income was a fair one in my estimation his cabinets evidently cost him $4.85 per dozen. His cheap work was clearly made at a loss. A very important point arises here. Any photographer who is making only a fair living out of his business can readily see that his work costs him just what he gets for it; if he makes more than $1,000 per year it is costing him less than he gets for it, but if his income is less than $1,000 a year, then his work costs him more than he gets for it. I am still assuming $1,000 a year as a fair income for the average photographer.

Many men tell me that they have figured out that if they could increase the number of sitters to a certain amount per day they could make money at a certain price. For instance, one man said that with 20 sitters a day he could make big money at $2 per dozen. He was in a town of 35,000, with only seven photographers, so he had a chance to try the idea. At the end of three months he found he could not draw 20 sitters a day by any kind of scheme and wanted to sell out on account of his health. I suspected the seat of his ailment lay largely in his pocket.

One very successful photographer employing three assistants gave me the following figures:

Rent	$780.00
Heat and light	250.00
Taxes	75.00
Insurance	100.00
New accessories and repairs	150.00
Postage	75.00
Help	2,800.00
General waste	300.00
Repairs	100.00
Material	2,415.00
Total	$7,045.00
Own salary	1,500.00
	$8,545.00

He made 2,300 sittings, so a dozen cabinets cost him $3.71, while the material alone cost $1.05 a dozen, which you will notice is the amount to a cent that I estimated at the beginning of my talk.

It seems to me that this photographer's figures really give us the minimum cost of a dozen cabinets. He gets $5.00 a dozen, so you see he is not using high-priced material nor

paying extravagant salaries. I fancy few men could run their business more economically so until I get more light I am going to assume that $3.71 per dozen is about as cheap as it is possible for a dozen cabinets to be made. I suspect the majority of those listening to me have to pay much more than that for them.

I have told you that I have tried very hard to get figures that would enable me to apportion the expense to the different departments of a studio. We all know there is the reception room, skylight and printing room. Given the expenses of each department one should be able to learn just what percentage should be allotted to each. I will try what I can do, but cannot guarantee more than an approximation, simply because no one can give me the necessary figures.

The reception room is the finest part of the studio. It is generally large, well furnished and in the best location.. I think myself at least half the rent of the premises should be charged against this one room, while most of the repairs and general waste are incurred right here. The other half of rent, taxes and similar expenses amy be evenly divided between the operating and printing rooms. I have had to guess at the division of the salary among the employees. I allow the reception lady almost $12 a week, the printer $20. I assume the retoucher devotes part of his time to assisting the operator, so give him a salary of $25 a week and charge one-third against the operating room and the balance for retouching. I allowed, you will remember, $1,500 a year to the owner. I charge the operating room with $1,000 of this, and divide the balance among the other departments for superintendence.

This table shows my results:

	Reception Room.	Oper. Room.	One Retouching.	Printing Room.	Total
Rent	$390.00	$195.00		$195.00	$780.00
Heat and light	125.00	62.50		62.50	250.00
Taxes	37.50	18.75		18.75	75.00
Insurance	50.00	25.00		25.00	100.00
New accesories and repairs	75.00	37.50		37.50	150.00
Postage	75.00				75.00
Help	600.00	400.00	$800.00	1,000.00	2,800.00
General waste	150.00	75.00		75.00	300.00
Repairs on studio	50.00	25.00		25.00	100.00
Material	46.00	713.00		1,656.00	2,415.00
Management	250.00	1,000.00	125.00	125.00	1,500.00
	$1,848.50	$2,551.75	$925.00	$3,219.75	$8,545.00
Cost of each sitting	$0.8037	1.09	.4021	1.3999	
Total, 2,300	.81	1.10	.40	1.40	3.71
Percentage,	21.8	29.6	10.8	37.7	99.9

If the retoucher is considered as helping the printer in his spare time instead of the operator, we will have to deduct 18 cents from the one department and charge against the other. This would reduce the expense in the operating room to 92 cents and make the cost of a dozen prints $1.56, that is, 13 cents each. The actual result is this. Each sitting seemingly costs the reception room 81 cents, the operating room $1.10, the retouching room 40 cents, and the printing room $1.40. Now this is on the basis of cabinets costing $3.71 per dozen; if they cost more each department must be charged more, therefore I have worked out the percentage figures thus: Reception room, 21.8; operating room, 29.6; retouching, 10.8; printing, 37.7.

These figures, I think, are rather interesting and I will further supplement by the percentage figures that refer to material. The total material is a little over 28 per cent., plates and developer a little over 8 per cent., paper, mounts and toning chemicals 18 per cent., stationery expenses 2 per cent.

A resitting takes up the time of the reception lady as well as that of the operator, so both must be charged; therefore a resitting costs $1.92. A duplicate order costs $1.40 in the printing room, but if we add the reception room lady's time the total cost will be at least $1.60. Remember all these figures are on a specially low basis and therefore most of you here must figure at least 10 to 20 per cent. higher.

Let me conclude by pointing to the immensity of the photographic business. There are in this country 16,000 photographers in business as near as I can learn. Each makes 600 sittings a year, or a total of almost ten millions. We have seen that the stock for each sitting costs a little over one dollar, so the photographers of this country buy every year about ten million dollars' worth of plates, paper, mounts and chemicals. That is an enormous business, and it is no wonder that many photographers spend much time figuring out how to save a little on their stock bills. And yet I often think their energy is being wasted in a

wrong channel, for even if they saved 10 per cent. it would amount to the average man to less than seventy dollars a year. I am of opinion that the real point for the photographer to worry over is how to get a higher selling price. I am honestly of opinion that a fair price for a dozen cabinets of ordinary style should be at least $6.00, and it is up to you as business men to endeavor to get it. I am afraid you will never get it fighting each other, and sooner or later you will have to organize as all other occupations are doing and strive to co-operate rather than to compete.

THIRD SESSION—THURSDAY MORNING.

The convention was called to order by President Hearn.

PRESIDENT HEARN: The Secretary will read the communications received.

SACRAMENTO, CAL., July 31, 1906.

To my Fellow Photographers,
Members of the P. A. of A.

I regret very much being unable to attend your convention at Niagara. Early in the spring I had started to plan to be with you and possibly tell you something about our Association of California. But events followed so quickly after that memorable 18th of April that all personal plans and ambitions were set aside and it was one grand scramble and hustle to find means to live. It was indeed a terrible blow that most of our poor fellows suffered and if it had not been for the instantaneous action of our Sister States there would have been much suffering and want. But thanks to the unselfish helping hand of the Nation our boys are being taken care of. The people of California know now what fraternal organizations and associations are. For these were the first to come forward with offers of assistance.

And on behalf of the Photographers Association of California, I desire to express our appreciation of the generous and prompt assistance given by the several State Associations and also of the many kind individual photographers and dealers. I believe that our Mr. O. H. Boye, Chairman of the Finance Committee, has prepared a report of the result of his work in reference to destitute photographers. Which report will be handed your secretary.

Fraternally yours,

LAWRENCE F. TERKELSON, Pres. Assn. of Cal.

A large group photograph of this convention will be taken by the Niagara Art Union of this City at the close of this morning's session; it is especially desired that every member be present as the picture will be used by the Press throughout the country; all members kindly assemble on river bank at rear of this hotel.

PRESIDENT HEARN: It occurs to me at the present time that it would be well and fitting that I should call attention to the fact that at two o'clock this afternoon there will be a reception room discussion on. This is a matter of great importance to us all, and we should endeavor to be here. It is one of the features that should come up for the consideration of all of you. It is a matter that touches our own individual business so closely that the elimination of things that are wrong and the recommendation of things that would be feasible is worthy to be brought to your attention as it will be brought. The meeting will be in charge of Mr. Johnstone, President of the Photographers' Association of New England, and we have also Mr. Puffer of New York, Miss Mary Carnell and other people who will address you at the time. To-night there will be a vaudeville and smoker at 8:30 P. M.

We will now listen to the Secretary's report:

NIAGARA FALLS, N. Y., JAN. 18, 1906.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

The Executive Committee of the Photographers' Association of America, met at the Prospect House for the purpose of making arrangements for the 26th Annual Convention.

All Officers were present. Charles Wesley Hearn, President; C. J. Van Deventer, First Vice-President; C. L. Lewis, Second Vice-President; F. R. Barrows, Treasurer; Frank W. Medlar, Secretary.

SECRETARY MEDLAR: The report of the Secretary was as follows:

Received on outstanding account, 1904	$219.35
Received for floor space, 1905	2,775.00
Received for desk space, 1905	250.00
Received for advertising space, 1905	895.00
Received for merchandise sold	5.00
Received, balance Ladies' Entertainment Fund	40.00
Total	$4,184.35

Paid to F. R. Barrows, Treasurer, in full.

PRESIDENT HEARN: The Secretary will be requested to read the Treasurer's report who is very busy in the office and cannot get away.

TREASURER'S REPORT.

Cash on hand January 1, 1905	$5,026.00
Received from Secretary	4,184.35
Received from membership and dues	3,128.00
Entertainment loan returned	300.00
Received, Hotel Lenox	100.00
Sale of ladies' pins	37.25
Total	$12,775.60
Paid out on vouchers drawn by President and Secretary, Nos. 479 to 582, inclusive	7,957.25
Balance on hand January 1, 1906,	$4,818.35

PRESIDENT HEARN: You have heard the report of the Secretary and Treasurer. What is your pleasure?

MR. CORE: I move that the reports of the Secretary and Treasurer be accepted.

Seconded by Mr. Johnstone. Put to vote and carried.

PRES. HEARN: We have down on our program a talk on "A New Studio," by Mr. Clarence M. Hayes. For some reason Mr. Hayes has not arrived. He is either delayed or something has occurred that has detained him, which I am not aware of. I am expecting a telegram or some word to inform me of it.

MR. HOLLOWAY: In the absence of Mr. Hayes, why wouldn't it be a good plan to proceed with the important business before the convention this morning and the selection of the next place of meeting. It has always been the experience of this association that by the time we got down to the last step of business before the convention that we have a mere handful. This has been the best convention we have ever held because we have stirred up lots of matter and I believe every man and woman in this hall will wait until the last minute to hear this other matter that will come up under the head of special business matters. If we proceed now with the next order of business we will still have a good attendance. (Applause.) I would move that we proceed with the regular order of business.

(Seconded by Mr. Barry, put to vote and carried.)

PRESIDENT HEARN: Before we do that I would like to read a telegram just received. "Will be there at 11 o'clock this morning, C. M. Hayes." Something has evidently delayed him so that we can go on with the program and Mr. Hayes will be here a little later on. Is the report of the Committee on the next place of meeting ready?

MR. BANDTEL: I believe you will find the report on the secretary's desk.

PRESIDENT HEARN: In the absence of Mr. Wilson, the Secretary will read the report of the Committee on the selection of a location.

SECRETARY MEDLAR: August 9th, 1906. Your Committee appointed to consider the invitations and location of a place for our next convention having carefully considered the invitations and proposition offered hereby recommend that the cities of Norfolk, Virginia, and Dayton, Ohio, be presented for your further consideration. Both places presenting advantages and attractions superior to others offered. Mr. Edward Wilson, Chairman; J. M. Bandtel, Secretary; J. E. Giffin, George B. Sperry, Charles Walinger.

PRESIDENT HEARN: You have heard the report of the Committee on selection It seems to present two places for your consideration. Before we proceed the motion is in order to take up the recommendation or to open up the subject for discussion.

MR. LIVELY: I move the report of the Committee be received and we go into the selection, by ballot, of the place of meeting.

(Motion seconded.)

Invitation of Mr. Bowersox.

It has been my desire for a good many years to invite you to hold your convention in our beautiful city of Dayton, Ohio, but as you well know it has been our custom to distribute geographically our conventions over the United States and we have been in Boston last year it is natural tnat we should move westward We came this year to this place. Now, it is very opportune that we should start right on west and take about the same distance. If you come to Dayton you will find it centrally located. Like the ancient city of Rome, all roads lead to Dayton. We have a photographic population such as you cannot find any other place in the country. We have large cities within from twenty-five to thirty-five miles, ranging from 50,000 to 100,000, and consequently you draw more photographers to the city of Dayton than you will to any other part of the country because that is the only way you can sustain a large association. You have to depend on the local photogarphers to help swell the crowd, and you will observe, if you know nothing about that part of the country, that Indiana, Michigan, Illinois, Kentucky, Virginia and Pennsylvania all are populous and largely settled. We have a great many photographers in all those States that we can draw from. There is another point I want to speak of: If you come for sight-seeing, we can show you the parent institution of the National Soldiers' Home, a sight that will be well worth your trip over there if you don't see anything else. It is a place laid out on about 1,000 acres, with beautiful gardens, roads, driveways, lakes, lagoons, waterfalls and beautiful vines climbing down the cliffs and the gurgling springs of pure water coming out just as fresh and pure as anything in the United States. I am not able to paint a picture of that beautiful location, but I say to you that, if you have the opportunity to come out to Dayton, you will never regret it. Second to that is the grand National Cash Register Co., known the world over. You know the sun never sets on a cash register office. They have them extended around the world. It is a place that employs 4,000 people, said to be the most beautiful factory in the world. It is conducted on principles that it would be well to know; if you are interested in advertising and want to know how to bring business, study the cash register method, the way they extend their business, the way they advertise it, and if you come there I am sure they will entertain you at their plant. They have also agreed to take us to Fair Hill, one of the most beautiful places in the country, where our Association's President Elect has a summer residence. Last summer we were entertained out there—there were 10,000 citizens entertained out there. A personal friend of mine who had charge of the cigar stand told me that the cigar bill alone for that day was $2,000. If you think we cannot entertain you, just come to Dayton next year and we will show you we have a most beautiful city. It is called the "Gem City of the State," and it well deserves that name. I come to you photographers as a photographer. I have attended conventions since 1882 at Minneapolis, that was the first one I attended, I think. I know what we need; I think I know what will make a good convention. I have studied it. I have worked with you and for you all these many years, and for that reason I would not ask you to our beautiful city if I were not positive we could entertain you in the best way possible. We have permanent hotels—not summer resort hotels—and we can give you accommodation such as you cannot find anywhere in any summer resort. We have ample hotel accomomdations for double the number that will attend the convention, and as to the hall that I would secure, it has an auditorium at one end that will seat above one thousand people. It has a beautiful gallery and a large stage, if we have any occasion to use that; a large corridor almost the width of this room running through the entire building two or three floors, with big rooms on either side. All has been promised to us free of charge if we come to Dayton, Ohio, next year. The people of Dayton appreciate your coming. I have told them of the pictures you display, and they are anxious to have you come there; they are very artistic people, we have out there; in fact, our tonsorial artists out there are so very artistic that they illustrate their talks with cuts while they are shaving. (Laughter.) I stand before you as a photographer, and I ask you to come to Dayton for your convention meeting in 1907. If you come, I will assure you you will have everything to make you comfortable and pleased, and if any of you are dissatisfied we will ask you to come again. (Applause.)

A MEMBER: What is the railroad fare?

MR. BOWERSOX: Two cents a mile in Ohio. It used to be three.

A MEMBER: How far from here is it?

MR. BOWERSOX: It is about 500 miles.

A MEMBER: What is the rate from New York?

MR. BOWERSOX: $18.00.

MR. WILSON: How far from the seashore is it?

MR. BOWERSOX: Far enough away to get away from the heat and the trouble. I place in nomination for the 1907 convention, Dayton, Ohio. I thank you. (Applause.)

Invitation of Mr. Holden.

MR. PRESIDENT, LADIES AND GENTLEMEN: We are now at a time when we are studying where we are to go next year. Mr. Bowersox has presented Dayton to you. I have another place to present, a place which is different from any others which you have visited in previous years, and I think when we consider these questions we should consider the conditions which surround the place of location of the convention from its several points. We have in the south land a section of the country which has never yet been visited below Washington by a convention—a place beautifully located in the United States—Norfolk in Virginia. (Applause.) A place which can give the greater number of you a great deal of good fresh salt air which will bring the tan to your cheeks and make you go back to your homes better looking. (Applause.) Furthermore, we are near to Old Point Comfort; we are near to the great naval headquarters of the United States; and we have other advantages—that is, that the people who invite us to Norfolk, Virginia, promise that they will pay the expense of the National Board and give us a free hall. (Applause.) It amounts to considerable—the exact figures I cannot tell you—but I will tell you this, that you will never regret going to Norfolk, Virginia, for your next convention. I therefore place Norfolk, Virginia, in nomination as the next place of meeting. (Applause.)

Mr Wilson: In seconding the nomination of Norfolk, I wish to add a little more and say that at that time is to be held the exposition known as the Jamestown Exposition—the three hundredth anniversary of the first English settlement on the shores of America, where probably there is more history in a small space and more real enjoyment, if enjoyment is sought, than any other place in the United States. You will see at the Jamestown Exposition that it will be different from any other exposition held in this United States. We can go to Dayton or to any other good city of that kind any other time, but as to Jamestown this is the first time in three hundred years that they have done what they are going to do. Another thing, the railroad rates to Jamestown will be, as is prevalent at all expositions, lower than any other fare that is given at any other time. The rates will be lower, and will extend internationally as well as nationally, I am told. The rate will go beyond the Rockies, and therefore is of interest to the people of the West. You go to a territory, as Mr. Holden has said, where this convention has never before been, where you are nearer to the greater center than at any other point you can suggest. Norfolk is near also to a place all Americans should visit, either going or returning, and that is Washington Then there is Old Point Comfort and lots of other comfort, and salt sea bathing galore. I hope you will bear in mind the facilities they offer us there, they offer to take care of the Executive Committee, and I am told that has amounted to hundreds of dollars. They offer ample accommodation both within and without the grounds—they offer, in fact, everything that could be desired, and in going to Jamestown you cannot only draw a greater crowd because the people—and the American people above all other people—want to be entertained and the program arranged as well as has been this one they will give you. If for nothing else than increased numbers and greater attendance, which I am sure will be greater than at any convention we have ever yet held, I think we should go to Norfolk. It will be a diversity for most of you, and while possibly there are other points that I would personally prefer, I am sure that no association can do any better than go to Norfolk. (Applause.)

MR. GIFFIN: I move that nominations be closed.

MR. NUSSBAUMER: I rise to second the nomination of Dayton, Ohio, and in doing so I have no knock for Norfolk, Virginia.

MR. GIFFIN: My point is that Dayton had an opportunity to be seconded before Jamestown was brought up.

PRESIDENT HEARN: You are out of order.

MR. NUSSBAUMER: Mr. President, I rise to second the nomination of Dayton, Ohio. (Applause.) I am doing this because I felt it to the interest of the Association. We have had a number of experiences with exposition towns. You all know what they are and I have nothing to say about it because you know all about them. Dayton, Ohio, is a place at the present time, very near to the centre of population of the United States. It is conveniently located and it is in a section where we have not been for some time. The people there have sent us a most hospitable invitation to come.

They have offered us all the inducement that we can ask within reason and I am sure that with the interests back of the invitations that they will certainly do all they say they will. It is of vital importance to us as an association that we go to a place where our Association is the real thing and is the whole thing. If we want to go to a place to visit an exposition, well and good. Let us go and visit the exposition, but don't let's make an excuse of saying that we are going to the Photographers' Convention there, that we might visit the exposition, and than give the exposition a turn down. I believe the interests of the Association are vital, and if we want to have a convention let us have a convention and let us be worthy of consideration. Let us be the real factor in the matter. If we are going to be a small toad in a big puddle, we are nothing—we are not worthy of consideration; but let us be the real thing—let the Photographers' Association and our interests be the real thing when we go to a place. I therefore second Dayton. (Applause.)

MR. HOLLIDAY: I know that these gentlemen are honestly in sympathy with what they say, but I want to suggest that at Norfolk we would not be a little toad in a big puddle. They offer to give us a special day and set that day aside and advertise it for us. This is the first time that has ever been done in the history of any exposition. This exposition is not on the grand scale of those that preceded it, but it will have special attractions to attract more than an inland town would have. We have down there all the advantages of the seashore which will make it as cool and comfortable as you can desire. There is one point I wish to make, that they will recognize us and put us on a plane higher than any exposition before. They will also save us one thousand dollars approximately in round numbers, as near as I can estimate. You cannot beat this.

MR. LEWIS: I think we have only to call the attention of a good many of our members who have had years of this kind of thing that we have experience in meeting at great fair places beginning at Philadelphia, again in Chicago, again in Buffalo, and again in St. Louis where we had great fairs and the Photographers' Convention was a side show. We will always have side shows where there are big fairs. I think if we go to Dayton as has just been remarked, we will be the whole thing, and we will have a convention and have our members on the floor when we have meetings and that is the vital point. We can see the show afterwards.

(Question called for.)

PRESIDENT HEARN: You have had two places presented to you for your consideration. A motion is in order for voting on this.

(Motion to proceed to ballot seconded, put to vote and carried.)

PRESIDENT HEARN: I will appoint Messrs. Holliday, Fowler, Thuss, Lifshy and Bandtel. I don't know whether a motion is in order or necessary, but I would suggest to the members that the tellers be instructed strictly to accept no ballots from anyone except the active members of this Association.

MR. NUSSBAUMER: I should like to announce about the entertainment to-night. To-night at 8.30 at the National Food Conservatory in the Auditorium, the place where the musical was held last night, there will be held a vaudeville entertainment for the ladies and gentlemen and after the vaudeville entertainment there will be a promenade band concert in the little park back of the International Hotel, and after the promenade concert then we will try to manage it and see whether we cannot get another informal hop. (Applause.)

PRESIDENT HEARN: The salon has been selected by the jury, but before I announce the names, I should like a little later to request any point of information in regard to whether any of those people are not eligible to receive the salon honor if any of those people are not members of the Association is being investigated at the present by the president. If any

of those people have exhibited pictures which were made before the last convention they are not eligible. That I wish to have attended to at a little later time. You are not only doing the convention right but the other members justice to notify the honest expression of the judges that the people selected are properly entitled to that honor.

If every one has received a ballot that is to vote, the tellers will receive the ballots. If everyone has voted who is entitled to vote on this question of location, I declare the ballot closed. While the tellers are proceeding to count them, there is an announcement to be made by Mr. Lewis.

MR. LEWIS: You probably are aware of an existence of the State officers' organization. This has been going on some years. We are trying to do some good work, and it is very hard work. We have accomplished a little each year, a little this year, but we could not accomplish all we went to in last year's meeting. and I want to ask that all State officers, either past, present, or, I was going to add future,—anyone vitally interested in the state association as affiliated with the national work, to meet in the New York headquarters' room at the rear of the hall as you enter the building here. I should like to meet at the close of this afternoon's session, if it should be through in time, but if it drags along until late, therefore I had better say at half past seven to-night. A committee has been appointed that will prepare resolutions that will be presented through the national body.

PRESIDENT HEARN: I don't think it will take more than a few minutes to bring up the question I wanted to a little while ago. Is there any member here present who has knowledge of any of the pictures out in the other room that have been made prior to the last convention—those who have been selected for the salon?

MR. LIVELY: I want to state to you that the picture selected out of my exhibit was made for the last convention, but on account of sickness I did not get it there. The other part of my exhibit was made since the last convention. I did not know that a rule of that kind governed the salon honors.

A MEMBER: This picture was made for a convention, and a day or two ought not to make any difference. Such precedent has never been established in artistic exhibitions anywhere, and a matter of two or three days ought not to make any difference with a picture of such artistic merits.

MR. HOLDEN: I want to say this for Mr.Lively's benefit. About that time I was down in Tennessee. Mr. Lively was very ill, but at the same time he was working, and I saw this picture in the course of construction, and I think this, that Mr. Lively has displayed by rising to his feet a quality which we should all display. (Applause.) It is one quality which I want to see displayed at all times in our Association, and I think as the picture was intended for the exhibition of last year, and delayed on account of the man's physical condition, that we should grant some privilege and be liberal with him. (Applause.)

PRESIDENT HEARN: If that is the wish of the convention I will not have it put in the form of a motion, but if that is the wish of the convention, merely signify by raising your hand. (Carried.)

MR. LIVELY: Certainly I appreciate this matter, and this action in my behalf. I don't know how to express how much I do appreciate it.

PRESIDENT HEARN: Are there any more pictures exhibited there that are ineligible? Now gentlemen, I want you to have the courage of your convictions. If there is a picture on that wall that was made prior to last convention under different circumstances than you have accepted from Mr. Lively, I wish you to make that statement.

MR. E. E. DOTY: There is an exhibit from Columbus, Ohio, that was exhibited March or April 18th or 20th, I forget which, at Toledo a year ago last spring.

by the Orr, Keefer Co. If any member of that company is present, I would like an explanation.

PRESIDENT HEARN: Is any member of the Orr, Keefer Co. present? Is anyone aware that any member of the firm is here or anyone seen here? In all probability they are not aware of the fact. The picture is ineligible. It will therefore be taken out of the salon, and the jury be requested to select another picture. Are there any other people from Ohio and Michigan here who have seen the picture referred to?

MR. DOTY: I have not been able to find anyone who was willing to identify the picture. I stand simply alone on it, but the picture pleased me so much at Toledo that I studied it carefully. The entire exhibition of the Orr, Keefer Co. are the same prints or the same subjects right straight through. It has occurred to me that possibly this was intended for a complimentary exhibit. Possibly the hanging Committee made some mistake.

MR. BARROWS: I tried to find Mr. Keefer's name upon my registry, and could not find it. I should like to know whether Orr Keefer is one name or two.

MR. DOTY: I have just been informed that there was a change in this firm within the past year, and possibly the entry on the roll may be Innes & Keefer.

MR. BARROWS: No firm can be registered. We are like a life insurance company; we only know the one man who pays his premium. Two men cannot ride on the same boat.

PRESIDENT HEARN: Have any of the members present any further information in regard to this?

MR. HOYT: It may be possible to find that that picture was entered in the complimentary class. If so it will be barred.

MR. VAN DEVENTER: As a matter of information, complaint has been made to me by several parties this morning that that picture has been in competition before. The gentleman who just had the floor was one of them and I don't know the others. The picture was not entered complimentary.

MR. DOTY: I know of one such case intended as complimentary and also marked,—that was Mr. Brinton, of Battle Creek.

MR. VAN DEVENTER: If such is the case it was an oversight. I was very careful on that point. There were very few complimentary exhibits.

PRESIDENT HEARN: You mean to state that this picture was not complimentary?

MR. VAN DEVENTER: It was entered in the general class.

PRESIDENT HEARN: As far as the salon awards are concerned, this one picture seems to be entered properly. The question now comes to the point of whether this picture was exhibited before. Have no other members seen this picture exhibited before?

A MEMBER: I think I saw the picture at Toledo, but I might be mistaken because there was another picture that I am sure I had seen at Toledo and that stated it was the same subject but a new negative. This might be a mistake.

MR. BARROWS: There seems to be a little confusion on this question. The fact that this picture may have been exhibited somewhere else don't bar it from this association. If this picture was made within the year and exhibited one hundred times before it appeared here, it could receive its honors here. The question is whether this was made before a year ago, or was it made this year; not where was it exhibited.

A MEMBER: The time of the exhibition was back a year ago last winter. I was president of that exhibit and all this talk about where the picture was exhibited means when, because no convention was held in Toledo since a year ago last April. Our convention was held in Michigan last April, and these gentlemen speaking were not in Michigan at all. They refer to the convention of a year ago last April. Mr. Sperry may remember.

MR. SPERRY: I have not seen the picture.

PRESIDENT HEARN: Someone take Mr.

Sperry out and show him the picture and see if he recognizes it.

MR. HOLLOWAY: I move that this matter be left entirely to our Executive Committee to satisfy themselves.

(Seconded.)

MR. BARROWS: I offer an amendment that in case this picture shall be barred that your judges shall pass upon other pictures that shall take its place, that no time may be lost.

MR. HOLLOWAY: I accept that amendment.

(Amended, motion put to vote and carried.)

PRESIDENT HEARN: I have the report of the tellers as to the result of the vote on location of the next convention. The total number of votes cast, 274; Norfolk, 98; Dayton, 176. Dayton therefore is your choice. (Applause and cheers.)

MR. HOLDEN: I move that Dayton be made the unanimous choice of this convention.

MR. WILSON: I second that motion. (Put to vote and carried.)

PRESIDENT HEARN: Next in order is the report of the nominating committee, Mr. Johnstone, Chairman.

MR. JOHNSTONE: Mr. President and members. We, the undersigned committee on nominations submit to you the following names: President, C. J. Van-Deventer. First Vice-President, Charles L. Lewis; Second Vice-President, M. E. Wilson, of Savannah, Ga.; Secretary, Frank W. Medlar. (Signed) C. A. Johnstone, E. B. Core, George Steckle, W. G. Thuss, and Mr. Fowler.

PRESIDENT HEARN: Are there any other nominations?

MR. HOLLOWAY: I am a firm believer in the old Roman law of justice, and that we should render unto Caeser that which is Caeser's. In other words, we should confer the honor of the presidency of this organization upon that one man who, by his long faithful service to this organization has earned the golden spur. (Applause.) As our old friend, Mr. Sam. Fulman so ably expressed it at Boston last year, he who seeks to wear the golden spurs should win them. I will add to that that Clarence James Van Deventer has carved his way to these high honors to which he sees fit to aspire. I don't know that it is necessary to add anything else to that, and I would like to make a motion that the nomination of Mr. Clarence James Van Deventer be made unanimous.

MR. HOLDEN: I rise to second the nomination of Mr. Van Deventer as President of this Association for the next year, on account of in the past few days I have learned some things that I really believe we all like to admire in any man, and that is that he is a hustler. I have been laboring hard along the work allotted to the first vice-president, laboring hard with him, and I have never in all my experience of a good many years among pictures known a man who has worked so untiringly, early and late, six o'clock in the morning until late, for the purpose of placing the exhibits in position, and I believe that with our strength back of him we shall have a president who will perform all that we need in this Association next year. I take pleasure in seconding the nomination of Mr. Van Deventer.

MR. SMITH: I move that the nomination be closed and that the ballot be cast for the President.

MR. ROSEVERE: I second that motion.

MR. LIFSHY: I move that the Secretary cast the ballot of the Convention. (Seconded, and carried.)

SECRETARY MEDLAR: I hereby cast one great long ballot for Mr. C. J. Van Deventer for President. (Applause.)

MR. VAN DEVENTER: Mr. President and friends: I thank you from the bottom of my heart for this ovation, and for this compliment. I love photography and I love conventions, and the good they do, and I assure you that with the assistance of a loyal Board of Officers who I know you will elect, that we will give you a convention next year that you will all be pleased with, and it will be a benefit to us all. I believe in fairness to all, and I assure you that in my presid-

ing over your deliberations that I will act with impartiality, and with fairness to all. For this great honor I thank you. I can say no more (Applause).

PRESIDENT HEARN: Next in order is the election of the First Vice-President.

MR. SPERRY: I want to second the nomination of Mr. Lewis. It is the prevailing opinion that photographers who work in the same town are always ready to stick a knife into each other. I am very happy to state that no such conditions exist in Toledo. Mr. Lewis is my strongest competitor and he is also one of my best friends. (Applause and cheers.) He photographs the bride, and I in course of time photograph the babies. (Laughter and applause.) I have heard that since the organization of the Lens and Brush Club in Boston, that photographers don't cross the street when they meet one another, but they nod and they speak sometimes, and they were even known to lunch together. I have gone to conventions with Mr. Lewis, and I have not only eaten at the same table, but I have slept in the same bed. (Applause.) I second the nomination not simply because he is a friend of mine, but because I know he is a hard working, conscientious citizen, always having the interest of the Association at heart, and I know that he has ideas out of common with some of the others, and that are sure to result in something that will benefit the Association (Applause).

MR. BATEM: I move that nominations be closed, and the Secretary be instructed to cast the ballot of the Association for Mr. Charles L. Lewis. (Seconded by Mr. Smith; carried.)

PRESIDENT HEARN: I declare C. L. Lewis elected First Vice-President.

MR. LEWIS: I feel the compliment. Repetition of words is unnecessary. Mr. Van Deventer has said all I can say. Neither of us can express our appreciation of the honor. There has been some criticism at times made as to things I have done. I have done them conscientiously. I have made statements as to some facts that some people call radical. I have some radical views, but I hope to be temperate, and always listen to my fellow members on the Board, and always serve the Association to the best of my ability.

MR. BARROWS: Just now I wish to say that Mr. Lewis and I at all times have not agreed. We have always been friends. We are friends, but in policy we are sometimes just a little at variance. I have seen occasion to oppose Mr. Lewis, but no one can be better pleased than I at the present time to know that Mr. Lewis and I will work together next year, and next year I will be the man to raise my hand to see Mr. Lewis made President of this Association (Applause.)

PRESIDENT HEARN: That is the quickest boom I ever heard of. We will proceed to the selection of the Second Vice President.

MR. NUSSBAUMER: I should like to place in nomination a most generous man. We are doing generous things today. Dayton, Ohio, gets the next place of meeting, and we don't want to forget the Virginias by any means. In Virginia we have residing a most generous, gentlemanly, courteous, Southern gentleman, a man who is a thorough workman, who is representative in every way in our profession. I should like to place in nomination for the position of Second Vice President Mr. A. T. Proctor, of Huntington, W. Virginia. Mr. Proctor has served this Association in other years. In fact he served us last year at Boston. Owing to a little misunderstanding there Mr. Proctor said, "Give the honor to someone else if someone else wants it." Then it seemed best to the Association that they elect another man. Now this year we are bringing Mr. Proctor to you, and we would like to have Mr. Proctor elected to this office as Second Vice President. He has served you faithfully and well, he is thoroughly representative, and I know you will like to do him honor.

MR. HOYT: I second that nomination. He is a substantial and every-day good fellow. I second the nomination.

MR. LIFSHY: I second the nomination of Mr. Wilson as Second Vice-President. (On motion seconded and carried; nominations are closed.)

PRESIDENT HEARN: We will now proceed to ballot for the office of Second Vice-President. (Ballots distributed, collected and counted.)

I have to announce to you now the result of the vote for Second Vice-President. 147 votes cast: 63 for Mr. Wilson, 84 for Mr. Proctor.

MR. WILSON: I would like to say, or at least I would like to make a motion, that the vote be made unanimous for Mr. Proctor, and I would say that this nomination was entirely unsought by me, and only announced this morning, but in the fight I stayed until the finish. I am glad to make this motion. (Seconded, put to vote and carried.)

PRESIDENT HEARN: Now we will proceed to the election of a Secretary. One of the most important offices ever known to any organization is that of Secretary. I want the gentlemen here present to try and speak to the members outside the door, and get them to come into the hall. You must not neglect your duty. (Applause.) I will not have this ballot taken until we have a representative body of our members.

MR. LIVELY: It is a pleasure to me to second the nomination of Mr. Medlar as our Secretary. We all know he assumed the arduous duties of this office upon the call of this Executive Board and he has diligently discharged all these duties, and made us a faithful secretary without having received the honor that usually accompanies the work, that is, in the election to this office. This is an obligation that rests upon us to see that he does receive this honor, and I take pleasure in seconding the nomination that we may relieve ourselves of the obligation in the election of him as our Secretary for next year. (Applause.)

MR. HOLLOWAY: I move that all further nominations close. (Seconded and carried.)

MR. RANSLER: I move that the President cast one ballot to declare the present Secretary unanimously elected. (Seconded by Mr. Fisher, of New York, and others. Carried.)

PRESIDENT HEARN: I cast a vote for Mr. Medlar. (Applause.)

SECRETARY MEDLAR: I thank you for this vote of confidence. When Mr. Hearn wired me it was almost a command, but was taken with due deliberation. While I have found the work rather difficult, stepping in so late, I feel that I owe you an apology. I don't feel that my work this year represents my ideas of a secretary's duties to an Association, and I shall by my best endeavors try to make good next year. Thank you. (Applause.)

PRESIDENT HEARN: I would like to state that Mr. Medlar is too modest. His work has been very efficient, and he has been a very able assistant to myself and the Board. (Applause.)

Now it is past twelve. There is a lecture on the program. It is one of the most important that we have to present. Before I defined my policy this year to have a business convention I wrote to the man and asked him if he was behind me. So much did I appreciate this gentleman's ability and power as an aid that I felt called upon in justice to you to define the policy, having the support of this one man behind me He has responded to my call nobly. In presenting this address to you now as I think it ought to be done, I would ask you to stay here and listen to it all, and if it is possible we will wait a few minutes, if you will call out that Mr. Clarence M. Hayes will speak to us.

MR. HAYES: At this particular hour, having been delayed and lost my place on the program, I do not propose that this convention should have a paper inflicted upon it, when a menu card would be the best paper they could use. I would suggest that you put it over until to-morrow or whenever convenient, if that be the wish of the convention.

PRESIDENT HEARN: It is late. I don't wish to defer the pleasure, but possibly

it may be advisable. Since Mr. Rockwood got in yesterday, ahead of time, we can put this lecture in to-morrow.

MEMBER: I move we defer it until afternoon and begin our meeting promptly at the appointed hour.

PRESIDENT HEARN: We have something else on hand. I would like to say that there has not been a single session that I was not ready here to call the meeting to order on time, but the members were not here. I might call our convention to order and have some of the speakers come up with a handful of people. I will start this session on time this afternoon. I know the gentleman will be here because he is always here every time. We will see what the other people will do in attending. A movement to adjourn is in order.

(Motion to adjourn seconded and carried.)

[We had hoped to have been able to publish the full report of the convention in this issue of the magazine, but up to the time of going to press (August 24) we have not been able to get the official report of the proceedings of the Friday morning sessions. Detailed reports will be given in a later issue.]

FOURTH SESSION—THURSDAY AFTERNOON.

The convention was called to order by President Hearn and reports of various committees were handed in.

Mr. Chris. Johnstone, President of the New England Association, was then invited to take charge of the meeting, and an informal but most interesting and instructive discussion on "Reception Methods" followed, many members giving their views and explaining their methods on this important subject. After a hearty vote of thanks had been accorded to Mr. Johnstone and all who had taken part in the discussion, the meeting adjourned until Friday morning.

At the Thursday afternoon session the following resolutions were submitted and passed upon:

TO THE PRESIDENT, OFFICERS AND MEMBERS OF THE P. A. OF A.:

We, the undersigned committee, appointed by the Chair to take up and consider the suggestions offered in the President's address, have carefully performed their duty and report as follows:

First, that we absolutely endorse the idea of and consider the immediate establishment of the proposed National Academy of Photography necessary and pressing. We believe that such a body will establish for the public the true standard of art in photography, and that this standard will be accepted by this association and thereby eliminate all questions arising from the making of awards in photographic conventions.

We therefore recommend that the President be empowered to appoint a full committee with full powers to carry the project into effect.

ALFRED HOLDEN,
W. S. LIVELY,
ELIAS GOLDENSKY.

MR. STAFORD: I move that the report be accepted and the committee discharged.

MR. COOPER (Memphis): I second the motion.

(Motion put to vote and carried.)

PRESIDENT HEARN: I will take my part of the programme into consideration and present it to you probably at a little later date to-morrow.

MR. KEARNEY: In my travels last year abroad I met a man Rudolph Duhrkoop, of Hamburg. I found him very much interested in American photography. He had made a trip to this country calling on many studios and gathered one of the grandest selections of photographs which he took over to Germany and speaking about the high artistic merit of American photographers the German photographers had no idea what beautiful work was done. This man lectured it abroad. He has sent to this association one of the finest selections of photographs I have ever seen. I would like to make the motion making Rudolph Duhrkoop, of

Hamburg, an honorary member of this association. (Motion seconded.)

PRESIDENT HEARN: Before I put the question I would like to say that this is a very great distinction. It is making recognition of a grand workman. It is making recognition of one of the masters of the world and no little benefit to us will result in recognizing his standing.

MR. CORE: I move an amendment to our friend Kearney's resolution, and that is that a copy of the resolution be engrossed and sent to Mr. Duhrkoop whom I had the pleasure of meeting in Hamburg and I found that he had imbibed very much of the spirit of American photography and photographers and I felt proud in being able to take him by the hand and call him friend. I should be more proud to say that he belonged to this association. (Applause.)

MR. KEARNEY: I accept the amendment. (Motion put to vote and carried.)

PRESIDENT HEARN: Are there any other short business matters to be presented?

MR. CORE: This formidable array of papers here are not all going to be read so you need not all leave the room, but this is a matter I feel has not received the proper attention at any of our meetings. I find that there is a marked indifference on the subject on which I am going to speak—that of copyrighting. While I myself have never copyrighted more than one picture I feel that it is a privilege to be able to do so if I want to. I should like to be afforded the protection that a copyright should afford if I want to get that protection. Consequently when Congress saw fit to make an amendment or to reconstruct the copyright law and the librarian invited certain interests to appear before him, among the rest the Copyright League of America was selected to represent the photographers. I have the report. You have had some action in last year's convention in regard to this matter, and, perhaps, are more or less familiar with it, and up to date they have not progressed to a state where they feel they are justified in making a detailed report of what has been accomplished. There are so many diversified interests, so many antagonistic interests that it required that we not display our course too openly. Yet I can say from the intimate knowledge that I have of the proposed bill in the state in which it now is that we have secured many things that are much more favorable to us both in the manner of protection and along other lines than we have had heretofore. With your permission I will read the report of the committee as it is sent to you.

To the Photographers' Association of America, in Conference at Niagara Falls, August, 1906.

The Copyright Statutes have long been acknowledged to be unfair, and by reason of their having been constructed mainly through amendments added to amendments, the original structure has become involved and the Law has no consistent theory—so Congress directed that an entirely new law be drafted which should be logical and just. To this end the Librarian of Congress invited a number of representative organizations to assist him in the work of formulating such a statute, to be submitted for the consideration of Congress.

Included among these were the Authors' Copyright League, the National Institute of Arts and Letters, the American Dramatists' Club, the American Institute of Architects, the National Academy of Design, the National Sculpture Society, the Society of American Artists, the American Publishers' Copyright League, the American Newspaper Publishers' Association, the Lithographers' Association and many others.

The Photographers' Copyright League of America was the organization invited to represent photography, because its exclusive work is copyright, and because its membership includes all branches of photography.

Three conferences, extending over eleven days, were held in New York and Washington, and when it is stated that

such men as John La Farge, John W. Alexander, Frank D. Millett, Carl Bitter, Daniel C. French, Brander Matthews, Edmund Clarence Stedman, W. W. Appleton, George Haven Putnam, Charles Scribner, Bronson Howard and others equally distinguished, represented their organizations personally, the importance of the conference will be realized. Our delegates, Messrs. B. J. Falk and Pirie MacDonald, attended all of these conferences, as well as the first public hearing before the joint Senate-House committee.

At your last annual convention, held in Boston, 1905, a communication from the Photographers' Copyright League of America was presented by Mr. Parkinson. It contained a statement of the condition of the affair at that date. You thereupon adopted a resolution, referring the matter to your Executive Committee for consideration and "with power."

When it was found that a fund would have to be raised to secure counsel to represent the interests of the photographers of America, for printing, postage, and other necessary expenses, the League issued an appeal to the photographers of the country.

At this crisis your Executive Committee, after deep consideration, and by the advice of some of your most influential members, alive to the vital issues involved, realizing that it was not possible to wait until the present meeting of the Photographers' Association of America, and feeling no doubt that the P. A. of A. by reason of its national character and comprehensive membership, should be the first to enlist for the protection of the inherent property right of the photographer, Copyright, appropriated five hundred dollars to the work of the Committee on Legislation of the Photographers' Copyright League of America by the following resolutions:

"That we appropriate $500 to the Copyright League in the interests of the photographers of America, and

"That it be the sense of this Board to express its willingness to further aid in the prosecution of this work when we are assured that such legislation is possible and progressing favorably."

For this co-operation we desire herewith to thank the Association.

We appreciate the courage and strength of character shown by your Executive Committee in doing what seemed to them their duty in this matter.

At this point we desire to add that, had the funds raised been insufficient to retain such counsel as the cause justified, a situation might easily by this time have been evolved that would have meant generations of injustice to photographers, and have taken many years to put right.

The result of the conferences will be found in a copy of the bill which is appended hereto, and which was introduced in Congress on May 1st by Senator Kittredge, chairman of the Senate Patent Committee.

A cursory perusal of the bill will show many important changes from the present statute, both in detail and in structure, and a comparison will undoubtedly demonstrate that care and labor, almost beyond calculation, have been bestowed on its creation, and on the conversation of our interests in its text.

Of course nothing will have been really accomplished until the bill is passed by Congress and finally signed by the President, for from this time on the interests who want to use our works without paying for them—the people who pirate the results of our training and education. our energy and our art—will exert every influence to have eliminated from this bill every item which would tend to protect and sheild our property, and insert in its place language which will permit of its appropriation without our leave or license.

All of which would suggest that the work still to be done may be the most difficult of all, and will require persistent and continuous labor, careful watching and able counsel.

It is our most sincere hope that when you next convene we will be able to report a Copyright Statute which you will be able to feel is just, and properly pro-

tects the photographer in the work of his intellect.

Fraternally yours,
Jos. Byron,
T. I. Stein,
H. A. Strohmeyer,
John H. Garo,
Louis Thorn.
Committee on Legislation:
J. C. Strauss,
Geo. Prince,
Theo. C. Marceau,
Pirie MacDonald,
J. S. Schneider,
Charles Wesley Hearn.

Now, I would like to say a word or two further in this matter. I know that Mr. Schneider and Mr. MacDonald have devoted time that I should very much hate myself to have given up even for so worthy a cause as this in your interest and in mine. It is necessary that they go before the committee next time with the full power of the photographic interests behind them, and to that end I have formulated a resolution which, if passed, will enable them to go before this committee saying that they represent the photographic association of America. I will read it:

"Whereas the Photographers' Association of America, being national in its character and standing for advancement of photography and the photographers of America; and

"Whereas the Copyright League of America is organized for the sole purpose of protecting the copyright interest of photographers, therefore be it

"Resolved: That the Photographers' Association of America hereby authorizes the Copyright League of America to act for and represent the interests of the Photographers' Association of America in the matter of the proposed copyright bill now before Congress, and that the Photographers' Association endorses the bill in the form and detail as presented, and urges the adoption without change or amendment in so far as it affects photographs."

It might be asking a good deal for you to pass this resolution without knowing something about what this thing embodies. Briefly stated, it means that you instead of being obliged to send a copy of the photograph to be copyrighted to Washington before you have published it, you are liberty to mark it copyrighted and publish it for thirty days before making your deposit. (Applause.) Second, instead of being forced to put on your picture copyrighted, by giving the date, etc., the letters copr., or in some instances a circle with a letter C. inside is sufficient, but the title and your own signature or your own stamp can go on the mount or on the back of the mount or the margin instead of on the picture as heretofore. (Applause.) The old copyright law made it obligatory on you to find in the possession of the publisher every copy on which you might be able to obtain a judgment or a damage. No photographer in any case that I know anything of would be likely to know that his picture had been used without his knowledge and consent until it has appeared in a publication and consequently beyond the right of recovery. The present law provides that it shall be any copy that has been published, sold or found in possession. A very slight error in wording might nullify the whole law and consequently you can see the necessity for strong, active, careful consideration and management in the final passage of this bill. (Applause.)

Fifth Session—Friday Morning.

The convention was called to order by President Hearn at 9.30. Mr. Clarence M. Hayes gave an interesting address on "The New Studio."

Mr. Milton Waide gave an address on "The Show Case," made interesting and helpful by the practical application of his ideas with the aid of four showcases on the platform.

The reports of committees and several resolutions were put before the meeting and carried.,

The convention was then adjourned to meet at Dayton in 1907.

The Professional Photographers Society of N. Y.

Employees in any locality may register without charge of any kind.

In your application be sure to fill out the "locality" blank.

Members of the P. P. S. of N. Y. who wish to communicate with employees listed in this column should write to Pirie MacDonald, 141 Broadway, New York. Names will be furnished free of charge.

The lists of the Employment Bureau are sent only to members and associate members of the Society.

29—RECEPTION LADY, single; salary reasonable; prefers Milwaukee, Wis., or any place.

30—GENERAL ALL-AROUND MAN, single; proficient in printing; salary, $16 to $18. Prefers N. Y. or Brooklyn.

31—PRINTER AND DARK-ROOM MAN, age 36; married; German. Salary, $14 to $16. 20 years' experience. Any place.

32—GENERAL WORK. Age 21; single. Salary, $15 to $25. Location anywhere.

33—RETOUCHER. Age 24; single. Salary, $12. Proficient in platinum and platino printing. Prefers East.

34—GENERAL WORKMAN. Salary, $15. Single; age 31. Prefers West; city of 20,000, not more. Work Michigan or Rocky Mountain region.

35—OPERATOR AND MANAGER, age 29; married. Salary, $18 to $25. New York State.

36—OPERATOR, age 38; single. Salary, $20.

37—PRINTER, OPERATOR; all other branches. Studio. Age 36; single. Salary, $15 to $18. Prefers southern part of Wisconsin.

38—RECEPTIONIST LADY, single; age 24. Salary, $15. West, any locality.

39—LADY RETOUCHER and General Assistant, very experienced.

40—DECORATIVE AND COLOR ARTIST, age 22. Salary, $35. Prefers East.

41—RETOUCHER, all-around man. Salary, $15 or $20. Single; age 30.

42—CARBON AND PLATINUM PRINTER, all-around man. Salary $25. Married, age 46. Prefers N. Y.

43—ALL-AROUND MAN, single; age 46. Good references.

From our London correspondent we learn that Messrs. Pirie MacDonald, B. J. Falk, Theodore C. Marceau and Joseph Byron are at the present time in London, from all accounts they are having a very good time.

No doubt the Professional Photographers' Society of New York will benefit largely by the fraternizing of the leading photographic lights of the world's two greatest cities, upon President MacDonald's return.

Of the twenty-five Salon pictures selected at the National Convention, four were made by members of the P. P. S. of N. Y., the honors being divided evenly, the Metropolitan and Western Sections each securing two blue ribbons.

Do not mutilate this page. Fill out a fac-simile and mail to Pirie MacDonald, 141 Broadway, New York.

EMPLOYEES' APPLICATION TO THE FREE EMPLOYMENT

Bureau of the Professional Photographers' Society

OF NEW YORK

Name _____ *Permanent Address* _____

Age _____ *Married or Single* _____ *Salary per week* _____

Desires position as _____

What locality do you prefer working in? _____

Employed last by _____ *from* _____ *to* _____

Other experience and references _____

It is hereby agreed that I will at once notify this Bureau on acceptance of a position, whether obtained through the Bureau or not.

P. A. OF A. SALON
Strauss, St. Louis, Mo.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. OCTOBER, 1906. No. 598

THE NATIONAL CONVENTION OF 1906.

BY THE EDITOR.

THE hopes and aspirations of President Charles Wesley Hearn have surely been consummated in the successful carrying through of the Niagara Falls Convention. Planned on broad and business-like lines the programme was lived up to in a business-like manner.

The attendance was not only large, but what is more important, it was very enthusiastic. The most clearly sounded notes were good-fellowship and good business. Members who had travelled from far-away points in Florida, Texas or California were equally positive in their statements that they had never enjoyed a convention so much as this one.

The arrangements made for the comfort and convenience of all who attended were well nigh perfect and complaints on this score were conspicious by their absence. That the executive officers were heartily endorsed for promotion and confirmation showed that their efforts were fully appreciated.

The picture exhibit, on the whole, was excellent. The work of many of the exhititors showed increased strength and individuality. The selection of the Salon failed to please everyone; the age for miracles, however, has passed. President Hearn is entitled to much credit for securing such a fine collection of pictures as those loaned by Curtis, Duhrkoop and the Second American Salon. It is somewhat regrettable, however, that the location of the latter was not advertised to better advantage. This collection was worthy of more attention than it received.

The scheme for the establishment of a National Academy of Photography, put forward by Thomas Harrison Cummings on behalf of President Hearn, brings forward a question of great importance to the professional photographer. It deserves and doubtless will receive serious consideration. We invite the comments of our readers on this matter. Such an organization must be entirely above party politics, and with regard to the whole matter, those who are most closely interested should not overlook the fact that it is ofttimes but a step from the sublime to the ridiculous.

Successful as the convention was we are inclined to think that it would have been made still more useful if the time allotted for the reading of a paper had been cut down to twenty minutes—with unlimited discussion. There is no proposition in photography that cannot be thoroughly explained in twenty minutes, and the speaker who takes up more time is most likely to be practicing the art of circumlocution.

Another point we would like to mention with a view to making the pictures more accessible. Would it not be possible to advance the closing time for entries sufficiently to allow the Executive to number each print and have ready for the opening session a printed list of exhibitors with the numbers that had been allotted to his prints—in other words a catalogue? This would save much time and confusion in looking for a particular set of prints and would bring the picture exhibit into line with every other well-organized exhibition of pictures

These, however, are minor details. The Niagara Falls Convention of 1906 will stand out as the beginning of a serious effort to raise photography and the photographer to a more practical and more profitable level.

PRESIDENT HEARN ON THE NIAGARA FALLS CONVENTION.

EDITOR WILSON'S PHOTOGRAPHIC MAGAZINE.

DEAR SIR: In reply to your query relative to the recent Niagara Falls Convention, would say that I suppose there are none who temporarily have charge of such things, but would have preferred some things to have resulted differently.

If I mistake not, all promises were fulfilled, although some of the lectures were changed around, and some talks not advertised were given in addition. The members had an unusually large and fine exhibit of pictures, not only from our own members, but three loan exhibits of magnificent work—the second American Salon of some three hundred and fifty foreign and American photographs; fifty 14x17 of E. S. Curtis' celebrated Indian pictures, and a large collection of photogravure portraits by R. Dührkoop, of Hamburg, Germany. I think our members never before had the opportunity of seeing such fine work from outside of our own membership as at this convention, and their appreciation was manifested by the interest shown in the exhibits. The Dührkoop collection especially pleased them, as it was in the nature of a surprise, and I think that grand work was an eye-opener to all who saw it. These photogravures Mr. Dührkoop makes in his own studio with as little trouble as we make platinum prints.

As to the speakers, I think that every one of them surpassed all their previous talks, and I opine that their publication in the magazine will be perused many times, for they were all valuable.

That one thing which I would have had different was in the discussions, which followed the speakers. While it was most pleasing that the lectures were such that they brought forth the earnest discussion they did, yet it was regrettable that more of the rank and file did not take part, but left it, *as usual,* very largely to a few. While, of course, *all* discussions are liable to bring out some valuable information to *all;* un who enter into it represent *wid ent conditions,* they do *not masses,* the principal object o be democratic policy.

I note that a writer in a cont magazine mentions that a yo made several efforts on diff to take the floor, but as he w do so, "some one of the big b upon his feet at the same t his diffidence he gave way." fortunate that I did not see man, for he would surely ha ognized.

I believe thoroughly th will of the convention sh the method of procedure *individual* member, when also be allowed freedom sacrifice of their rights), as views seem to be of interes

vention, that they are in order, and remarks confined to the subject under discussion. As these conditions seemed to be carried out, nothing was choked off. The question arises, however, if more might not have been drawn into the discussion if less freedom had been allowed in some instances.

It is advisable when things are going along satisfactorily to let them so continue, but if that young man (*and possibly others*) had got up just *a little further out of his seat,* it would have been especially pleasing.

I believe that President-elect Van Deventer's popularity and well-known tact will be greatly in evidence in results accomplished, in this as well as other directions, at the Dayton Convention in 1907.

There was one thing done this year, however, which *should always be done,* and that is, making known the *first moment possible* the names and the pictures of any which have been honored. It may possibly raise a rumpus of more or less large dimensions, but all officers should have the nerve and do it anyway. The members want to see what the jury decide upon, and they want a chance to tell each other that they do, or do not, approve of their findings. It raises discussion, creates interest, and is likewise of educational value. All pictures exhibited are a source of instruction for some, if not all, of our members, and they should have ample opportunity to study them *after* awards are made, as well as before. The executive never did approve of awards being made known just *prior* to the final adjournment, and not only in this instance but on a former occasion, when he had this matter in charge, there was no delay in making results known.

I do not think that we will hear much more for the next two or three years, anyhow, of the elimination of the manufacturers and dealers from the National Convention. This has been brewing for some time past, so the executive thought it advisable to take up the subject in his address by explaining the constitutional difficulties and the inadvisability of the idea of attempting the same, thus inviting action which failed to materialize.

The fact is, there was never any strength to this unpopular idea among the rank and file of our members, and I doubt if a corporal's guard could be mustered in its favor. There is, however, a slight sentiment in this direction among a few of the manufacturers themselves, but that little difficulty, I think, is not insurmountable and will most probably be adjusted at Dayton. Their request, as I understand it, is a mild one, is sound, and *as members* they are in equity entitled to consideration, *and should receive it,* as long as their wishes could be granted, without destructive injury to the principles that underlie our constitution, *which has been proven to be sound.*

There was, however, one very important matter handled by the convention, that of the proposed National Academy of Photography, strongly urged by the executive and favorably acted upon by the convention. Lack of time and space and its importance forbid that I take it up at the present time, reserving that for the next issue of this magazine.

Sincerely yours,

CHARLES WESLEY HEARN.

MY IMPRESSIONS OF THE NIAGARA FALLS CONVENTION.

BY S. F. LIFSHEY.

I WENT home well pleased with our convention at Niagara Falls. For me it was very interesting from the fact that so many practical photographers took part in the discussions, and if time would have permitted would have been at it all day.

Next in interest comes the picture ex-

hibit, as it tells of the progress during the year, and progress it was. The general average of the pictures displayed was of a high standard, yet it was somewhat disappointing owing to the lack of originality, invention or, speaking plainer, of story-telling pictures. A number of very good attempts were noticeable, and I sincerely believe, were a competent critic to point out and explain to us where the photographer failed in his attempt, we could learn something worth while; or, Why not have open discussion on the pictures by the members? What one does not see the other does, and, to my mind the man behind the camera is better able to judge a photograph than the one who only sees a camera in the stockhouse or in a studio.

While in the picture hall one could not help but notice how eagerly the men were listening to any one who attempted to explain some picture on the wall. Here is an example of what I have just said. Take the picture published in this magaine for June, "The Old Musician." I also saw it hung at Niagara, with some recognition on it. If there was discussion on this picture, some one would have called attention to the fact that the old musician could never have played his violin, as his left hand is fingerless; another would have asked what the joke is the old musician is laughing at, as the picture does not tell it.

I am convinced that the carefully prepared paper, with specially prepared drawings, such as we have been having at the convention, does not serve the purpose for a practical lesson to the photographer as our own photographs would do. Study "old masters" at home or in an art school. Study photographs at a photographic convention. Why, then, collect thousands of photographs at conventions, if we are not to have the benefit of a competent critic to point out what is good and what is bad? Otherwise we go home and repeat our mistakes.

The resolution adopted to give an award to manufacturers and dealers will stimulate discovery and invention and will encourage the production and manufacture of new articles for photographic use, and is living up to our constitution. The good-fellowship that exists between the members at the convention is also part of the constitution. The credit of much of this is due to the Executive Board. The twenty-sixth convention will long be remembered for its many good features.

ACADEMIC PORTRAITURE: PIRIE MACDONALD.

BY SIDNEY ALLAN.

AMONG the professionals Pirie MacDonald has a vaguely pontifical position. He has been the officiating high priest at many important occasions, and has never tired of burning incense in praise of his own peculiar theories of portraiture. Round his name and round his methods there has grown up a feeling of curiosity and worship, and although he has not established a new school or movement, one slowly begins to realize that this man has invented a new style of expression —for himself at least—an accomplishment nevertheless that few of his fellow-craftsmen may claim.

To have a style of one's own means in the art world largely to have discovered for one's faculties the most advantageous mode of expression, a recognized standard of presentation to which all technical details must conform. The process of portraiture is handled by the majority of photographers in a too haphazard, desultory, naively unconscious fashion to come within the range of premeditated calculation, of *academic* production. It was left to Pirie MacDonald to raise it to that distinction.

Of course I do not refer to the peculiar pose he has chosen to assume, his

"photographing men to please women," and his desire to "live in the appreciation of the women who love and respect the men that he has photographed." That is an absurd passage of paradox and affectation. I have but little use for his fluttering fantastic ways, and the eloquent sweep of his hands through space, but it is all so cleverly done—he seems to regard the matter coldly, as a mere row of figures with which he has to make so many moves a day—that I cannot choose but admire him as being splendidly audacious. For the strange thing about it all is that he deals with a clientele of men, men who are prosaic and matter-of-fact and only intelligent in special lines, and yet he approaches them like an apostle of estheticism with all sorts of high-falutin' themes and fancies, that under ordinary circumstances would only be tolerated at fashionable afternoon teas. It is wondrous strange!

And how shrewdly he prepares his prospective customers to the inevitable. In him really an ideal Tony Hamilton has gone to seed. He possesses the advertising instinct in a pre-eminent degree. He understands to give to every pæan of self-laudation an appearance of novelty and a dainty touch. His method of securing customers is, indeed, as elaborate as it is delicate. It is not a mere impromptu affair but carefully thought out in every detail. Shorn of its glittering paraphernalia one sees that there is some sound logic at the bottom of it all. The result proves it. They do come!

MacDonald was far-seeing enough to realize that the photographer who has a special talent for a special line of work, and could afford to devote himself to that exclusively, would produce his best and procure for it a price commensurate with its quality. Like E. B. Core, who makes a specialty of children, MacDonald had the courage to make the experiment, abandoned his lucrative trade in Albany and opened a studio in the very heart of New York's business district. The field was large enough and the talent of the man sufficient to build them—each in his own way—a reputation and to make their business profitable. Core, who has no magnetic personality at his command, did it in a simple unpretentious dignified Fifth Avenue manner that eschewed self-praise and notoriety. The man from Albany invaded the domain of Barnum and Sarah Bernhardt and Whistler, and entered upon the scene with beating drum and flying colors. And he made a hit by playing his trump cards straight into the face of his audience.

But all this refers only to external and material qualities. Has MacDonald really done anything for portraiture that justifies the display of limelight centered so lavishly upon his personality?

I think I shall be able to show his supremacy in that respect. Comparatively few portraitists develop a style of their own—as, for instance, Sarony, Marceau, Hollinger, Kasebier and Coburn have done—that is recognizable at the first glance, no matter under what conditions it is seen. The majority stays complacently in the old avenues of sameness and does not venture forth in cross-country expeditions that may lead to a more original expression of thought. They may differ as lenses, mounts and backgrounds differ.

Pirie MacDonald has not only created a style of his own, but has made it *academic, i. e.,* he has exhausted all the possibilities of his chosen method and has endeavored to make it and finally succeeded in making it as perfect as possible. We talk of academic drawing when we think of artists like Bougareau or Kenyon Cox—in the same sense MacDonald's portraits are academic. He has made it a study of years to find out what he could do best and how he could do it best. He was wise enough to realize from the start of his New York career that strength lies in limitation. His march towards progress was one of continual sacrifices, every year he left some accomplishment as unnecessary baggage by the wayside. To devote himself exclusively to men was his first clever move. As men's garb does not lend itself to pic-

turesque effects he abandoned the full-length portrait, and as hands, no matter how true in values, are apt to detract the attention from the face, he finally made hardly anything but bust portraits. The space which the face occupies steadily grows larger, and there will be soon nothing but a suggestion of the body in his portraits.

He is an advocate of intimate likeness. As he said to me one day, "Everything really depends on personal magnetism. What this (pointing to the camera) does is of little importance. I have to draw the character out of the person I have before me. I force his interest, control it, and lead his thought into a sphere that is most pleasantly characteristic of him."

Differing from Strauss and Pierce, however, he is a believer in long exposures that do not merely give one aspect of a sitter, but a concrete result, a composite of slight changes in his facial expression.

The likeness produced, so to speak, by the hypnotic suggestion of the photographer, the final aim of all his later years' portraiture, necessitated a most rigid simplification in the manipulation of his studio paraphernalia. A man bent on such immediate character reading cannot be hampered by focussing, by especial lighting and arrangements of backgrounds. He must have everything at his finger ends. So he made all his appliances as compact and practicable as a Milton Waide might do. He reduced all labor in the presence of the sitter to the very minimum, and for that purpose studied out a system of lighting that would serve all purposes.

The arch type in human likenesses, not a mere record or a spontaneous observation is MacDonald's unconscious ideal, and this very search for a more important psychological note in contrast to outward appearance has led him on paths that he might have just as well avoided. His method did not play him quite true.

One knows a Pirie MacDonald at the first glance. Its individuality is almost obtrusive and this is the grave danger to which all *academic* efforts are exposed. They are apt to become stereotype and the very achievements that once enjoyed our fullest admiration are turned into mannerisms by continual practice.

MacDonald's photography has arrived at this point. It is perfect in its way, and for that reason no notable improvement is possible.

Be this as it may, we cannot fail to acknowledge that he has shown, and is still showing, us portrait photographing in a new light, systematized, expressed in practical and yet æsthetic terms, the direct and inevitable outcome of calculation, experiment and thought. He more than anyone else, by his own example, has spoken the timely and opportune word that photographers should be men of brains, magnetic personalities, with a virile sense of modern life. The message he has brought had been long expected and I hope it will be respected ever and anon with far greater eloquence.

ETHICAL DEPORTMENT.

THE ethical moral force of the photographic fraternity has been classed, for many years, as below par—in fact, it has been credited with having no tangible existence. Whether this has any foundation in fact remains to be seen; statements are often made in pique which are detrimental and become boomerangs. Competition is absolutely essential in business; it is stimulative and uplifting; without it we are apt to become perniciously dormant. It is not good form to foster jealousy because our business competitor is successful, nor to say or do unkind things against him because of his success. To berate him is not in con-

formity with ethical laws; your customer is not interested in your troubles. The entire world loves a manly man—especially so when that man is in business; hence when we decry our competitor's work we place an embargo upon our own moral force and belittle our own competency. The unalterable law of commercialism should be business integrity and more conscience, pure and unalloyed. Work should be made strictly upon honor and, to do this, we should ourselves be honorable. One of the best traits a man can possess is self-control; it is cultivatable and desirable; in no profession is it needed more than among photographers. With this essential commodity we can obviate much of the annoying pettifoggery which daily best us, as it calls for discreet behavior when dealing with our fellow-men—either as competitors or patrons. "Soft words," sayeth the axiom, "turneth away wrath." Many of us say unkind words in jealous paroxysms that we would willingly recall when sober thought o'ertakes us and when our very best moral business traits exert themselves. Business honor is one of the most exemplary assets with which we can clothe ourselves, but this honor must not stop with our patrons—*it must be extended our brothers in the profession.* Candor should be rigidly observed in all our dealings—it must be a part of ourselves, if we claim to be upright.

The ethics of fraternalism among us should by no means become a by-word; its substantiality should be apparent, because it means the very life and soul of organization, and without brotherly unity there can be no real business interests. If we possess no desire to study the ethics of our profession we degrade ourselves, and our degradation is a source of ridicule, not only among ourselves but to the public from whom we seek patronage.

The public expect more *personal* character, more individuality, more honesty, from the photographer than from the plumber or blacksmith because of his superior calling—his work is on a higher moral and intellectual plane; there is supposed to be a greater and better intellectual fibre of ethical morality in his composition. Knowing this, it should stimulate us to higher business ideals. Hammerton says, "It is strictly true that the three intellectual pursuits—literature, science, and the fine arts—are all of them strong stimulants; surely photography is classed as a fine art. Admitting this to be so, should not our efforts be on the side of ethicl cultivation? If we are faithful to a real, progressive, business life—a life wherein the intellect is called into use—we cannot put aside the courtesies due our brother; we must not expend all our suavity upon our patrons and pour out all our abruptness upon our business associates. The thinking worker, the active worker, has no place in his soul for mercenary motives; he is just, and being just is full of ethical business traits. Master minds do not necessarily usurp all the good, cultivated manners. The "association of these masters (of manners) with each other and with men intelligent of their merits," says Emerson, "is mutually agreeable and stimulating. The good forms, the happiest expressions of each, are repeated and adopted. By swift consent everything superfluous is dropped, everything graceful is renewed. Fine manners show themselves formidable to the uncultivated man. . . . Manners aim to facilitate life, to get rid of impediments and bring the man pure to energize." This is apt and applicable to the public as to the private individual; it is a good ethical business trait—this mannerly candor of business principles, this converging, generous feeling for the welfare of the entire fraternity; a firm adherence to the rights of others (by observing courteous respect for those in the same profession) is bound to show itself, commanding esteem and respect from those with whom we come in contact.

There must be no dissembling, no sub-

terfuge, no dubious equivocation among professional photographers; it should ever be remembered that dirty chickens come home to roost, and we will have to clean them in our own mental hen-coop.

THE FOLLOW-UP SYSTEM.

Characteristics Which Successful Letters Must Possess.

BY G. H. DIRHOLD.

WHEN your inquiries come in is the critical period of the campaign. It is as impossible to give advertisers *in toto* general information concerning the make-up of a follow-up letter as it would be to give humanity instructions how to fly. The product of the advertiser, the location of the inquirer, the tone of his letter, and a dozen other considerations all assist, and must be considered in deciding what to do and what not to do. Every letter, however, in answer to an inquiry, should be handled carefully by a competent man, as on the proper reply may hang the making or losing of a customer worth hundreds or thousands of dollars yearly. If the inquirer asks for information, give him all he asks for, and more, too. Swamp him with all the information he wants, unless the tenor of his letter makes it appear that he will write you several letters before the deal is consummated. In that case, save your ammunition and dispense it judiciously, saving a few good arguments or clinching facts as a last order-bringing instalment.

Writer a Salesman.

Stripped of all theories and of the glamor of literary or artistic skill, the writer of follow-up literature is merely a salesman. His sales are not as direct as those of the traveling salesman, but, in the final analysis, he is merely trying to do by means of paper, type and ink what the salesman does in person by spoken words. Naturally, the correpondent is obliged to employ methods somewhat different from those of a salesman who talks in person to a customer, because, in a sense, he deals with the abstract rather than the concrete. It is the difference between carrying a message in person and writing a letter about it. The personal element, in a sense, is largely eliminated. There is no shaking hands, no responsive glance of the eyes, and no inflection of the voice. All of these things which the traveling salesman may do in person are largely impossible with the correspondent. I say largely impossible advisedly. The successful correspondent has a sort of personality; the personality of knowing the business he represents, the goods he is selling—in most cases a very powerful factor in getting results.

Good and Bad Letters.

Of course, some follow-up letter writing is good and some is bad. This, however, is not a condition of affairs peculiar to the follow-up letter, but equally obtains in even the personally dictated letter. The good kind of follow-up letter is good anywhere, from Maine to Manila. The civilized people in every quarter of the globe eat, drink and wear substantially the same things. The same sensible arguments that are selling commodities in one place will sell them in another if properly applied. It really makes no difference whether these arguments are embodied in a follow-up letter or enclosed in a personal, dictated letter.

What the Letters Can't Do.

There are a few things that a series of follow-up letters can't do, no matter how good they may be or how wisely placed.

First: They can't restore health and strength to a broken-down business that

is drawing its last breath and hasn't enough vitality to take any nourishment.

Second: They can't sell enough of a poor article to make it profitable in the long run.

Third: They can't sell very much of a good thing if an equally good and well-advertised thing is sold at a lower price.

And they can't do the most good, anyhow, unless they are pretty good themselves; unless there is real thought and method in them—business arguments, interesting details, facts.

What the Letters Can Do.

On the other hand, there are a few things that the use of a series of follow-up letters can do and will do—that they are doing right along.

A series of follow-up letters of the right sort will help any legitimate business under heaven that deserves help. Backed by good work and prices, they will do more to build up a business than any other one force known to the business world. Under their influence, the small business will grow in that easy, continuous way that pays after spurts and booms are dead and forgotten. It widens and extends the big business along safe, sure lines. It will pull many a business man out of the hole when it's a matter of finding a wider market for a good work, and finding it promptly.

All this and more the follow-up letter has done, is doing, and will do. The matter in a series of follow-up letters must be real. It must be gathered from the author's experience, by his observation, but it must pass through the crucible of his imagination. It must be idealized. The modern follow-up letter must appeal not to a single person or an individual, but to humanity. Otherwise it loses force and forfeits the power of doing the most good.

The First Mission.

The first mission of a follow-up letter —in fact, of any letter—is to be seen. Notice, I say it is merely the first mission. It is not the greatest mission. The greatest mission is to convince. Before any letter can convince or convey any message whatever it must be seen by the reader for whom it is intended. Every letter of a series of follow-up letters should be part of a long, connected story. This story is the story of your work. It should tell in the long run just why your customers should buy your work, just what particular advantages it has. What the prices are, where prices can be quoted to advantage, and the various things of your way of doing business which will appeal to them or convince them.

You cannot and ought not to tell these things all in one letter. Each letter should be different, and all the letters should form one long, connected, interlocking story from month to month. In the end, they will produce a cumulative impression. It is not any one letter that makes or breaks your business. It is the month after month hammering away, presenting constantly new and different points of view, and always getting down to convincing arguments every time, that makes the follow-up letter pay.

Must Be Easy to Remember.

The letter that is likely to have the most, and the most lasting effect upon the human mind is the letter that can be easily remembered. Whatever people used to do in the past, and whatever some backwoods people may do in the present, there is no gainsaying the fact that to-day the great bulk of people like to be approached in a quick and forceful way, to be told your story in a few words. Understand me; in decrying the long drawn-out letter I do not mean to go to the other extreme—an error fully as great. The middle course is always the safest. Between the too short letter and the too long there is the kind of letter that brings results—the letter that is terse, and strong because of its terseness; brief, and effective because of its

brevity; readable because it is easy to read, and because its perusal does not take too much of the valuable time that is so rare an article at the beginning of this great twentieth century.

Letters Thrown Away.

It has been said that the follow-up letter is thrown away and not preserved. Now, it is expected that follow-up letters will be thrown away. If they get themselves read, they have accomplished the thing for which they were made, and they have accomplished more than the average circular does. Even if you write a personally dictated letter to a man who is interested in your proposition, and with whom you are having regular personal correspondence, he doesn't carry that letter next to his heart and read it over several times a day—not a bit of it. He reads that letter once, takes in its meaning, and either files it away or throws it into the waste-basket, according to his idea of business.

A follow-up letter is handled in about the same way. Some men will look at it simply to see what it is, and they will discover that you are making and selling something. They can't look at the letter without gaining that information. If the letter interests them enough so that they will read what is written on it, it has fully accomplished its purpose.

Reasons Are Omnipotent.

In the follow-up letter, more attractive than fine pictures, more potent than fine language alone, are the *why* and *wherefore* of the goods—the Reasons. All letter argument is merely the setting forth of two main reasons: reasons why the buyer ought to buy—reasons why the seller sells. The buying reason is grounded deep in human nature. Readers are not content to be told that your goods are strictly high-grade and are sold at a popular price. First, human nature wants to know the price; then it wants to know whether the goods wear, give satisfaction, how long they will give satisfaction, and what you propose to do about it if they don't give satisfaction. When human nature has all these facts in hand, it can come very close to knowing whether it is worth while to consider buying your goods or not. The follow-up letter is really a secondary salesman. It is expected to go out and tell the story of your business to your customers, to give descriptions, to quote prices, and to get orders. I believe it will do all this if it is properly constructed; but in order to do so it must consist of more than a mere mass of descriptions and prices. It must embrace good, sensible reasons as to why the goods described should be purchased instead of those of any other name.

This article—in line with the advice given in Mr. Scandlin's address before the National Convention and reported in our last issue, is reprinted from *Profitable Advertising,* one of the leading magazines devoted to advertising—a magazine that ought to be found in every studio seeking to increase its output.

RENAISSANCE OF PORTRAITURE BY PHOTOGRAPHY.

BY J. C. STRAUSS.

SINCE the earliest times the visible object of greatest interest to humanity has been the human face and form. Attempts at picturing man were among the first efforts towards reproducing the images most deeply impressed upon the mind. These crude representations not only excited interest, but by degrees became the object of admiration and veneration. Man often could find nothing worthier of his worship than images of himself. This worship developed to such an ex-

tent that one of the first and most important laws, at the very base of our present civilization, forbade idolatry—the ascribing superhuman and supernatural powers by man to images or pictures of himself. The Greeeks had no brighter laurels or higher honors than for the sculptor and painter, who most beautifully portrayed, on canvas or in marble, the features and form of man and woman.

This condition could not have existed had not the great masses been peculiarly and deeply interested in and attracted by reproductions of the human face and body. While the masses, from the dawn of history onward, have always admired pictures of people, and taken advantage of opportunities to view them, it was not until the advent of photography that personal possession of portraits came within the possibilities of others than the wealthy or powerful.

The family album full of cabinet photos was, for a number of years, one of the favorite themes for jests by the paragraphers of the papers. They forgot, or probably never knew, that an interest in pictures of people is almost as historical, as universal and as natural as breathing.

With all the other attractions and diversions of a metropolis, a recent exhibition of photographs at the Chicago Art Institute was visited by over 55,000 persons, "the highest attendance for the same period of time in the history of the institution," says a Chicago periodical.

Aside from electricity, no other development of the last six decades has become such an important factor in the daily life of the masses, or is applied in so many and to such widely diversified uses, as photography. It enters by numerous channels of greater or less importance, into almost every phase or aspect of human endeavor. It is essentially an element to be considered whether one's activities are in any of the paths of art or of science, of mechanics or of commerce, of literature or of recreation.

Photography has become practically an omnipresent element in our civilization.

As applied to portraiture: Photography may now be said to be in its renaissance. Its earliest development, that of the daguerreotype, had a distinctive art element because of the individuality of the pictures. There were no duplications. The then known processes required a degree of skill on the part of the maker and a length of time to secure results, which of necessity made the portrait one free from faults of the mechanical prints which followed as the processes were made simpler. As, year after year, the manipulation of plates and papers became more easy, the photograph departed from the higher qualities of the daguerreotype and the evidences of machinery and the tendency towards commercialism increased. The descent was rapid and deep. The first downward step was taken when quantity became the important factor, and instead of individual pictures, repetition and duplication set in.

He who first proposed that photographs should be sold by the dozen, just as eggs or socks, pointed out the path which led to the discrediting of camera portraiture, inviting the scorn of the artist.

Canvasses painted over with impossible landscapes for backgrounds and papier mache moulded into ungainly accessories, followed. Certain stilted, conscious posings of subjects became the rule, and naturally pictures made by any one photographer were such a close resemblance to the work of all others that it made but little difference which "artist" was patronized, the finished product was just about what would have been obtained had some other "studio" been visited.

Pictures by some of the best-known photographers, even those of New York City, could be recognized by the scenery and furniture because of the constant recurrence of the same pieces in their

work. The standard conception of art was a face modelled like a cheap china doll. Each was smooth, puffed and rounded without a line of character, and the skin as white as a new paper collar.

One of the first changes of infinite relief to sitters was the abolition of that instrument of torture, miscalled a "head rest," but in truth a vise which chilled the marrow of the subject. Next the papier mache settees, balustrades and fences were converted into kindling wood. The snow-capped mountains, the unending meadows and the tremendous waterfall were thrown into the ash heap. The little card stuck on a pole, towards which the victim must look pleasantly, was "fired." The constrained, affected poses were abandoned. The relative difference in various shades of color were considered. The over-retouching which left faces blank, putty-like lumps was rejected. The stupid method of making pictures of different persons, or of the same person in different poses, accommodate themselves to a predetermined size or shape of mount, was abandoned. This revolution of method, this endeavor to educate out the wrong conception and to teach correct principles has taken years to reach its present status, where connoisseurs and critics admit the art element and value in camera portraiture. Necessarily much misconception remains, and the enlightening movement advances but slowly.

The repetition of backgrounds, the conventional, theatrical poses, the harsh contrast of black and white, the removal of lines of character, the uniformity of size, governed by mounts—these are some of the well-known features of the photograph which are still too prevalent.

The photographer who really has an earnest desire to make his work something more than a mechanical impression or map of the subject, gives to each print leaving his hands the stamp of individuality. The materials selected are such as will lend themselves to the desired color tones and yet possess absolute permanence. Each impression receives individual chemical treatment—this in sharp contrast with the ordinary photograph of which hundreds may be treated in a mass. The background in each plate is essentially different from that on any other, being sketched by hands skilled in artistry—thus the background harmonizes with the subject and is in accord with the lights and shades of the portrait, making a pleasing general effect or ensemble. The size and shape of the portrait is also a matter of considerate study, no two poses being treated identically. The form and dimension are made to adjust themselves harmoniously to the picture—so also with the color; instead of harsh contrast of light and shade there is a gentle gradation with truthful regard to their relation in life. Where the white lace falls upon the wrist of a lady there is a difference of many shades between the flesh tone and that of the lace. In the photograph it would be false to make both appear alike, or nearly so.

And so on in each and every distinct detail of true portraiture by photography the one trait ever present is individuality. Just as no two persons or faces are identical, the portraits should vary.

To secure this individuality of treatment requires trained assistants, having an artistic temperament, in all the departments of a photographic establishment. Such a portrait as is here contemplated evidencing the artist touch throughout can be obtained at a cost but little greater than that of the stereotype description. But when it is received it measures up to the highest standard—"a thing of beauty, a joy forever."

SULPHITES AND METABISULPHITES.

BY E. A. TURNER.

EVERY practical developer formula includes, among the chemicals called for in compounding it, at least one chemical which is added purely for the purpose of "preserving" the solution—for preventing discoloration of the developer and staining of the plate, film or paper. This preservative chemical is usually sulphite of soda, though quite frequently other chemicals are used, such as sulphurous acid, sodium bisulphite, sodium metabisulphite, potassium metabisulphite, and acetone sulphite. All these chemicals depend for this preserving power upon the gas known in chemistry as sulphur dioxide, or more commonly as sulphurous acid gas. It is this gas that is formed when ordinary sulphur is burned for fumigating purposes and that gives to a burning sulphur match its pungent odor. This same gas is used in the bleaching of straw hats and evaporated apples, being generated for the purpose simply by setting fire to roll sulphur.

Starting with sulphurous acid gas as a basis, the ordinary liquid sulphurous acid purchasable in bottles is made by allowing water to absorb the gas—in the same way that ordinary water is made by saturating water with ammonia gas. This sulphurous acid is sometimes called for in formulæ for hydroquinone developer and in some pyro-developer formulæ. In whatever formula it is used, as soon as the developer is mixed, ready for use, the sulphurous acid combines with some of the carbonate of soda or potash, or whatever other alkali is used in the developer, to form sulphite of soda, so that whenever sulphurous acid is used in a developer the ready solution is exactly the same as if sulphite of soda were employed. The only difference is that a stock solution of sulphurous acid with hydroquinone of pyro keeps better than a stock solution made with sulphite of soda.

Sulphite of soda is made, thus, from liquid sulphurous acid and carbonate of soda. On the large scale it is usually prepared by pumping sulphurous acid *gas* through a solution of carbonate of soda until the alkaline carbonate has absorbed sufficient of the acid gas to neutralize it. The solution is then evaporated and the sulphite crystallizes out. If, however, we continue to pump gas through the solution of sulphite of soda, it will absorb as much more of the gas as was absorbed in making the sulphite, and a new chemical, *acid* sulphite of soda, or sodium bisulphite, is formed. This *acid* sulphite has, as its name implies, an acid reaction. It may be purchased either in the form of a strong liquid solution or as a granular powder. It always smells strongly of sulphurous acid gas and can, for many purposes, be used in place of the acid. It is excellent for preserving a pyro stock solution, and may be used as an addition to the ordinary hypo bath to keep it clear in hot weather. However, acid sulphite of soda is so variable in strength and so easily loses its strength on exposure to the air that it is much better to use sulphite of soda instead whenever practicable.

Acetone sulphite is a curious compound of this acid sulphite of soda with acetone, or alkaline liquid. It acts in the developer exactly the same as if the two chemicals were added separately. Most of its peculiar actions as a restrainer are due to the fact that it neutralizes part of the alkali of the developer and so re-

duces its working strength. Sodium metabisulphite accomplishes practically the same purposes as sodium bisulphite. It is, however, rather more powerful than the bisulphite, somewhat in the same way that anhydrous sulphite of soda is stronger than the crystal sulphite. Potassium metabisulphite is very similar to sodium metabisulphite, but somewhat more of the potash salt is required to produce the same effect.

The relative preserving strengths of some of these preservative chemicals, weight for weight, are theoretically as follows:

Sodium sulphite, crystals	1.
Sodium sulphite, anhydrous	2.
Sodium bisulphite, dry	2.4
Sodium metabisulphite	2.64
Potassium metabisulphite	2.26

The relative quantities required, for the same preserving power, will be:

Sodium sulphite, crystals	2.
Sodium sulphite, anhydrous	1.
Sodium bisulphite	.83
Sodium metabisulphite	.76
Potassium metabisulphite	.88

But in using these figures we must always keep in mind that our chemicals are practically never 100 per cent. pure. In the manufacture of high-grade developing and fixing chemicals every material used is chemically analyzed and compounded according to its actual strength. The variations are frequently as great as 25 per cent. and are much greater in bisulphites and metabisulphites than in the more common and dependable sulphite of soda.

It is often noticed that formulæ for pyro developer frequently call for sulphite of soda and sulphuric acid in the pyro stock solution. The two chemicals are usually so proportioned that they react chemically with one another to form bisulphite of soda in the solution. Pure sulphite of soda is neutral in reaction, but commercial sulphite is always alkaline, and the pyro keeps very much better in a solution that is acid with bisulphite or acid sulphite. The reaction in forming the bisulphite from sulphite and sulphuric acid is as follows:

$$\underset{\text{Sodium sulphite}}{2Na_2SO_3} - \underset{\text{Sulphuric acid}}{H_2SO_4} = \underset{\text{Sodium bisulphite}}{2HNaSO_3} - \underset{\text{Sodium sulphate}}{Na_2SO_4}$$

The sodium sulphate which is formed has no particular photographic effect in the developer and may be disregarded.

When this acid pyro solution is mixed with the alkali solution in preparing the developer, the bisulphite is again converted to sulphite, according to this reaction.

$$\underset{\text{Sodium bisulphite}}{HNaSO_3} - \underset{\text{Sodium carbonate of alkali solution}}{Na_2CO_3} - \underset{\text{Sodium sulphite}}{Na_2SO_3} - \underset{\text{Sodium bicarbonate}}{HNaCO_3}$$

The sodium bicarbonate is a very weak alkali and its effect in the development may be practically neglected.

Some few pyro formulæ call for the bisulphite itself to be used in the preparation of the pyro stock solution.

Whenever bisulphite is used in this way it is useful to know the amount of alkali that will be neutralized by the bisulphite employed, so as to know just how strong in alkali our developer will be when mixed for use. Pure sodium bisulphite will require somewhat less than its own weight of pure sodium carbonate to neutralize its acidity, but as the ordinary granular sodium carbonate is usually of about 70 to 80 per cent. carbonate, and as the bisulphite may be anywhere from 50 to 85 per cent., it is perhaps as near as we can estimate to say that on the average the bisulphite will neutralize about its own weight of sodium carbonate, and in using the metabisulphite of sodium or potassium we will not go far wrong by allowing here, too, an equivalent weight of carbonate for neutralizing the acidity.

Whenever a developer is freshly prepared from the dry chemicals the acid sulphite and metabisulphite have no particular usefulness, and sulphite of soda alone is usually employed.

THE CALIFORNIAN RELIEF FUND.

SHORTLY after the fire a meeting of professional photographers was called as a preliminary and a little later another to consider the matter of assisting those of the craft who had lost their business and in many cases, their homes at the same time. Information had been received that various funds were being collected in the East and the prompt disposal of such assistance as was available became a matter of importance. A relief committee ws appointed, consisting of the following well known local photographers: O. H. Boye, T. H. Wilton, Paul Lotz, I. W. Tabor, George Knight, O. V. Lange and Jacob Fowzer, Mr. Boye acting as chairman. The selection of this committee was so made that it included photographers following a varried line of work in order that there might be no danger of any deserving member of the craft being overlooked. The name of every possible loser by the earthquake or fire was listed and their address sought and listed. All were reached either by letter or personally by some member of the committee with the result that some forty former proprietors in San Francisco, San Jose and Santa Rosa have received material aid, and received it promptly, at a time it was most effective. Many others required only assistance to reach friends or new fields of activity, others required no cash and asked simply that a little material be placed at their disposal. Still others made no claim upon the resources of the committee and as these last formed the larger portion of the cases investigated, it speaks well for the independence and reliance on self that characterizes the photographers of the unfortunate sections.

While most of the funds so generously sent by outside bodies of photographers were clearly specified as being for the use of the former proprietors of destroyed studios and were so used, other subscriptions were placed solely at the discretion of the committee which was in that way enabled to practically render assistance to every case of needy and deserving photographer. The following list of funds and donations received is believed to be full and complete, but the work of handling matters has been so hampered by lack of time on the part of the committee, that it must be pardoned for any mistake. Mr. Boye also regrets that the correspondence has been so meagre that he is not able to fully credit all the amounts further than to name the persons through whom they were received:

C. P. Goertz Optical Works, through L. T. R. Holtz	$100.00
T. H. Wilton, San Francisco	5.00
O. H. Boye, San Francisco	5.00
J. D. Givens, San Francisco	5.00
Western Section, New York Photographers' Association, through Dudley Hoyt	500.00
Additional, through Dudley Hoyt	338.25
General fund, Jos. Byron, Treas., through B. J. Falk	913.62
G. Cramer Dry Plate Co., 35 cases of plates	.....
Eastman Kodak Co., stock to amount of	1,500.00
Willis & Clements, check through Hirsch & Kaiser	132.42
A. Grothwell, twenty Mogul trays	.....
General Fund Committee of Boston, through F. R. Barrows	500.00
George Butler, Salinas, Cal.	5.00
General Fund Committee of Philadelphia, through Jos. Byron, New York	151.57
Additional, New York fund	5.00
Paul Lotz, San Francisco	4.50

Mr. Boye in behalf of the committee and of those who have been so materially assisted, as well as for those who have not found it necessary to avail themselves of the generous aid placed at their disposal, wishes to express the most keen appreciation of the assistance rendered by those who have so generously come forward when relief was so sorely needed. That the fund contributed has been well placed is proven by the entire absence of dissatisfaction or lack of harmony. The thanks of the photographers who suffered by the recent calamity are most deep and sincere, not only for the material assistance, but for the kindly feeling which prompted its bestowal.—*Camera Craft.*

NEWS AND NOTES.

A New Toning Bath.

A recently published French patent is for the use of tin-chloride in the toning bath, and although the baths will not keep long, a great variety of tones is obtainable. A stock solution is first made, and this will keep indefinitely.

Sol. tin-chloride (fuming)	160	grs.	320 gms.
Citric acid	1½	grs.	3 gms.
Sodium carbonate	32	grs.	64 gms.
Ammonium chloride	14	grs.	28 gms.
Distilled water	1	oz.	1000 cc.m.

For cold tones, sepia, brownish red, or yellowish brown, mix the following bath:—

Stock solution (above)	25 m.	50 cc.m.
Chloride of gold (1 per cent. solution)	10-25 m.	20-50 cc.m.
Salt	100 grs.	200 gms.
Distilled water	1 oz.	1000 cc.m.

This takes from two to twenty-five minutes to tone. For warm tones, rose, violet, and blue, use

Stock solution	50 m.	100 cc.m.
Chlor. of gold (1 per cent. solution)	50-100 m.	100-200 cc.m.
Gallic acid (1 per cent. solution)	12½ m.	25 cc.m.
Distilled water	1 oz.	1000 cc.m.

This takes from five to fifteen minutes. The prints must be well washed prior to toning. When first immersed they bleed considerably, and turn mauve, then regain their original strength and turn rose violet, blue, and indigo. The addition of more citric acid tends to give rosy tones. After the first toning bath the prints should be well washed and fixed in a bath of

Hypo	4 ozs.	200 gms.
Salt	4 ozs.	200 gms.
Water	20 ozs.	1000 cc.m.

After the second toning bath, the prints must also be well washed, but a plain hypo bath should be used.

A Three-Color Studio.

A studio has been opened in Berlin for three-color work, including portraiture, the first of its kind. Part of the roof and side, which are filled with ribbed glass, are rolled back giving not only more light and thus reducing the exposure, but also the so-called open-air lighting, and as no fancy backgrounds are used, merely a soft plain grey, the effects are said to be extremely satisfactory. The camera is fitted with a repeating back, and the color screens or filters are placed just in front of the plates. The printing process employed is carbon, the pigments being incorporated in the gelatine, as in the special tissue, supplied by the Rotary Photographic Company. The price obtained is $15.00 for two cabinets. We have had an opportunity of seeing several results by this process and thev are excellent. One on ivory or ivory celluloid, was the nearest approach to a fine miniature we have yet seen.

Brown Tones on Gaslight Papers.

Dr. Eichengrün states that excellent brown to sepia tones can be obtained on gaslight papers by increasing the exposure, and then using the following developer:—

Edinol	5	grs.	10 gms.
Acetone sulphite	25	grs.	50 gms.
Sodium carbonate	17½	grs.	35 gms.
Water	1	oz.	1000 cc.m.

Further, that without increasing the exposure, excellent brown tones can be obtained by the use of the following:—

Edinol	5	grs.	10 gms.
Sodium sulphite	50	grs.	100 gms.
Water	1	oz.	1000 cc.m.

The more sulphite used and the longer the exposure, the nearer the tones approach to red.

P. A. OF A. SALON
Van De Grift Studio, Toledo, O.

P. A. OF A. SALON
C. L. Lewis, Toledo, O.

P. A. OF A. SALON

W. S. Smiley, McMinnville, Tenn.

P. A. OF A. SALON
Brenner Studio, Cincinnati, O.

P. A. OF A. SALON
J. Thibault, Fall River, Mass.

P. A. OF A. SALON

Louis F. Bachrach, Worcester, Mass.

P. A. OF A. SALON
Geo. E. Tingley, Mystic, Conn.

H Snowden Ward Pirie MacDonald . B. J. Falk Jos. Byron Walter Barnett

THE SURPRISE PARTY

PHOTOGRAPHIC CONSIDERATIONS OF PICTORIAL ELEMENTS*

BY W. F. OLIVER.

The questions I am to attempt to answer are these: What are the different pictorial elements, *i. e.*, of what do they consist? What is their exact importance or pictorial value? How may they be secured photographically—directly or indirectly?

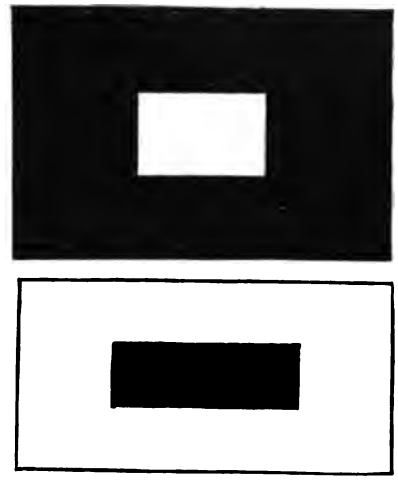
All that you can possibly do to control or influence the image that is projected upon your plate must be done by the manipulation of the subject before your lens and the control of the light that falls upon it.

The important principle is one of the laws of light, viz.: the intensity of light decreases according to the square of the distance from the source.

I hope you notice that I place the shadows and the volume of light in direct relation. These principles of light demand the most careful consideration. So the facts you need to remember about light are: That increasing one dimension of your light does not increase the working intensity except at a distance from the light exceeding the shorter dimension. That in every instance, light means intensity and intensity means distance from the source of light. That in every instance illumination means volume, and volume means area of the source

Illumination.

The so-called catch-lights are pure reflections, and if not subdued conceal that portion of the substance that caused the reflection. If you wish to know the nature and quality of your lightings, you may ascertain by applying the Steadman test here in the strongest light and then here in the deepest shadow (see Figs. 1 and 2). If your catch-lights are strong, *i. e.*, pure reflections, you may assume they are of the same intensity as the light at its source. If you use a head screen, then your catch-lights are the same intensity as the head screen itself—and of course the intensity of the head screen depends on its distance from the skylight. There are few, indeed, if any, who do not use a screen for some faces and shade white drapery, unless they employ local reduction on the negative, which is no more creditable. As these intervening screens do not affect the *volume* of light—your *illumination*—they offer you the greatest accessories for primary control of pictorial effect. In my own practice I have a large movable frame, as high as will pass beneath the ceiling of the room and nearly as wide as the skylight. Across this frame are tightly stretched a series of horizontal wires. On these wires are two sets of curtains, one of unbleached cheese cloth, the other of black. By this arrangement I can secure an opening of any width up to the width of the frame and of any vertical length from about one foot up to the height of the frame. There are so many of these curtains



Figs. 1 and 2.

in each row that I am able to let any desired amount of direct light fall upon any part of the light side of the subject while at the same time I can exert *the same local influences of light upon the background.* Through this control on subject and background I can, by my lighting alone, create a difference in values equal to half the pictorial scale.

With the average worker the so-called correct exposure and development are simply a matter of results. When the negative is unsatisfactory or, as they would call it, *incorrect*, they attribute it to one thing or the other, according to their judgment of the moment, because they have no actual or definite knowledge of what they have really done. If the negative is correct or satisfactory, they say that they have given full time and full development.

I have decided that the one primary fact or working basis in photography is this: With the present high standard of uniformity in chemicals and the sensitiveness of plates, unvarying exposures on a uniform intensity of light will yield unvarying density in the negative if developed a uniform length of time in a developer of unvarying strength and temperature. If you maintain the standard of uniform strength and temperature, by using

* A paper read before the Niagara Falls Convention.

the factor system you can maintain this uniformity of density, because it makes full and accurate allowance for any lack of uniformity in your exposures and intensities of light. Roughly speaking—and I guess it is near enough at that, no matter what your intensities of light may be, the same factor will always yield the same amount of printing density. Now it doesn't matter whether your negative is all clear glass or only a few very minute parts of it—it will always take the same length of time or same amount of light action—to produce the absolute black wherever clear glass exists. You know that your pictorial limitations are between this absolute black and the absolute white, represented by the unaffected surface of *your printing paper*, and your negative has *no control* over that limitation.

When you print a picture you always print for the high lights. Suppose it takes five minutes to obtain the absolute black on Platino under clear glass. Now imagine that you have four negatives of exactly the same scene—the density of the high lights in the first requires five minutes of clear sun to print in sufficiently, the second four minutes, the third three and the fourth two, and clear glass represented the deepest dark in all. You must see at once that the first print would yield the absolute black, and the other three certain fractions of it, according to their printing time. If all these negatives received the same exposure you would obtain these different printing densities by varying the period of development. If the exposure was sufficiently long, there would be the same amount of detail—more properly gradation—in the shadows of the two-minute negative than there was in the five. It would show stronger in the five-minute negative, but most plainly in the two-minute print because the shadows would be in so much lighter tone.

It is plain from this that clear glass is your most constant factor, your most sensible basis for pictorial computation. You can't make clear glass any clearer—you can't make anything that will print any blacker. Pictorially, whatever fraction the full development is dispensed with to avoid the absolute white, must be compensated for by a corresponding increase of exposure for the benefit of your shadows. The use of pyro and such other developers as cause the high lights to appear before the shadows is responsible for these universally accepted but entirely false ideas. Contrary to general belief, if the shadows are fully exposed, the *shadows* will be fully developed long before the *high lights* are fully developed. The negative of this portrait was made on a so-called contrasty plate. The Steadman test showed that the intensity of light here (large portrait) was fifty times the intensity here (in deepest shadow). The developer was allowed to act seventy seconds. It was pyro and it wasn't weak. My reasons for approving clear glass to represent the deepest dark are, first, because the thinnest negative that will print properly on the kind of paper you wish to use is most amenable, susceptible to faking of any kind, *i. e.*, a touch of lead or a dab of color have a greater strength. Second, if you wish to use your negatives for any use that you compute time to secure correct results, you have no occasion to make allowances for fog or stain. To illustrate, the greatest field for pictorial faking is in printing a positive plate, building it up to the effect you want, then printing back onto another plate for your perfected negative. If you put your negative into a plate holder instead of a printing frame, then place your plate for the positive back of that, all you need to do to secure an exact replica of its gradations is to place the plate holder in the camera and point the lens at a white screen or a screened window. You then make the Steadman test for strength of light and expose the plate by light coming through the lens for the length of time necessary to produce the absolute white. Develop by the factor that gives the same printing density as the negative. When your positive is faked to your soul's delight, go through the same process again. Your new negative will not only have the same gradations but the same general density or printing time.

Gradation.

Regarding gradation we have found that we can find the strength of light as well as we can weigh our chemicals and estimate its volume as well as we measure our solutions. By the use of screens and the placing of our subject we can cause this light to fall on any part of either subject or background in its full strength or subdued to any degree. By varying the period of developmnet we can make these gradations to appear in the same contrast as they appear in the scene, or we can make them appear in great contrast or in less.

The first pictorial element I will consider is the masses. These may be considered in the modern Japanese light, called Notan, or the older phrase—fundamental forms of chiaro-oscuro. The idea of Notan is to decorate a surface by dividing its area into smaller areas of varying sizes, shapes and color or degree of light and shade. It is, to say the least, a valuable addition to the pictorial effect of a composition. Your control of masses I shall be obliged to explain by illustration or supposition. A subject in dark coat, opposite the light with gray background, would give three masses. Move subject so one side is in shadow and there are four. Shade background to same tone as the light side of coat,

and once more there are three, but the picture area is divided vertically. So your control of massing and spacing is in the pose and lighting of your subject in contrast or in harmony with the adjoining tones of your subject. These masses are the heaviest or most important primary element of your composition, so it is very evident they should be the *first* pictorial consideration when you are about to make a sitting. If their arrangement is wrong or out of balance, there is no other element powerful enough to offset or neutralize it. This matter of arrangement is called spacing.

Lines.

Pictorially, any element or combination of elements that forcibly leads the eye in some particular direction, is considered to form a line. It may be a continuous gradation—it may be a succession of spots of gradation, or it may be the unobstructed ends of other visible lines. But the first thing that comes to mind from the word lines is the outline.

As in the rendition of correct proportions of masses we know that the lens will render outlines with truthful accuracy, if not with artistic excellence, so it would seem fitting that we should find out exactly what is the value of this outline in full pictorial presentation, *i. e.*, the presentation of the painter whom you are constantly encouraged to emulate. I will quote from John LaFarge. "In our general use of the eyes, just what we notice least is this outline of objects, so that the line of the draughtsman is not the thing he wishes me to look at. He makes it to determine the shape of the object—what he means me to see is the interior within this line. I can follow his line, but then I cease to see the thing as he represents it." Again, which is a more important consideration for us: "This, as the line is only meant to separate, to divide the figure represented from its background—the more full and abundant the details of light and shade, the richer in modelling and color —the more we shall feel the need of destroying line (meaning outline), when we come to paint fully."

Another said: "Obviously, if one goes beyond line (meaning outline) and uses shading, it is because one has more to say—following that best of all laws, that the simpler means should be exhausted before the more complex are called forth."

If these authorities are reliable it is evident that line, used alone, simply as outline, is capable only of suggestion. If it is only meant to divide the subject suggested from the background suggested, it is evident that when this object and background are pictured fully, outline, in the form of line, is not only unnecessary for, but injurious to, pictorial success. The extremist remedies this trouble by printing his negatives wrong side out, thus blurring all his lines and blurring all equally, and it is doubtful if he does not lose more than he gains. The only rational way to consider lines is as an element of your pictorial composition and not one of the elements of your subject. One portion of an outline may be desirable pictorially, and the remainder not. In the latter case this objectional portion may be "lost" by placing that portion of the object outlines adjacent to a like gradation in the background as in the control of masses. When this cannot be done without disturbing the spacing of your masses, your control rests in emphasizing or introducing other lines (not outlines) by arrangement of pose and lighting, of which I shall later speak.

Detail may be safely considered as more a matter of line than anything else. Detail indicates sharpness of definition and sharpness of definition necessitates sharpness of lines and outlines. Photographically, it is sharpness of focus.

Texture.

Texture is a combination of sufficient sharpness of focus or detail to show the nature of the substance, together with the correct gradation to show the depth of color. For example, the presence or absence of lines—continuous or broken—would indicate whether a substance was smooth or rough. The gradation would indicate its depth of color. It is one of the strong but simple capabilities of photography.

Chiaro-oscuro has been defined to mean light in darkness. You would get the idea from some portraits that it meant dark in darkness. It is a word you always want to use when you can't think of anything more ponderous or impressive or can't think of anything else to say. If it ever had any definite meaning, it probably meant the rendition by gradation of forms or objects which possessed no gradation or color of their own. In its accepted sense it may be considered as the rendition of form by light and shade. Your control of chiaro-oscuro rests wholly in your control of gradation.

Balance is the result of harmoniously combining or assembling the different pictorial elements. It is an æsthetic proposition—not a mechanical one, consequently outside the province of my theme.

Tone.

Tone, Key and Pitch.—The term tone, when used alone and with reference to a picture as a whole, means simply the color of the picture. When it refers to the degree of light or dark of a picture as a whole, it means just the same as key or pitch.

The key or pitch of a picture is really de-

termined by the tone or gradation which you use to represent white in light and in shadow. It does not matter if there is no white in your subject, the key of your picture indicates the value that would be accorded white if it were present. In your negative it is a matter of the factor or length of time of development. In your picture or print it is to some extent dependent upon the depth to which the printing is carried, and to a great extent the kind of paper you use, *i. e.,* the texture of the surface and the chemical process. This definition of mine might be considered wrong, because it often happens that the key is not indicated by the lightest object in the picture but by a darker one occurring in some other portion. In that case, it is the picture that is wrong—not my definition. It may be on account ot the arrangement which creates too great a contrast. It is more likely to be the result of not rendering the tones in the light portion and those in the dark portion with equal truth. In other words, some of the gradations are *out of value.*

The word tone is most often heard in connection with values. Tone values are largely a matter of individual ideas and artistic taste. The meaning of the phrase is: That things or substances of different color or degrees of light and shade should be represented in the picture by correct (not the same) gradations of light and shade, whether they appear in the strongest light or in the deepest shadows. For example, the hand and face are both "flesh," and if in the same light should normally be of the same tone—but if the hand were in the shadow it would be entirely different. Then it should maintain its value with the adjacent parts.

Briefly, then, except in regard to color values, tone values are the result of harmony between your *light* and your *illumination.* To recapitulate, in your subject or scene your light is controlled by the intensity or distance from the light. The illumination, by the volume or size of the skylight opening. If these two elements are not in harmony, all you need to do is to place the lights and shadows in their proper relative location, then develop by the factor which will render the fraction of your contrasts that you desire for the key or pitch of your finished picture.

The original of this picture (large portrait) is, I think, what would be generally considered a combination of good tone values. As I have told you, the Steadman test showed that the actual intensity of light was fifty times stronger here than here, while the exposure was only fifteen times that indicated by the intensity here. The picture shows what fraction of these intensities I preserved by my factor of development.

If you will make a series of experiments, using different time of exposure and factor of development, you will learn more about the control of tone values as they appear in the lights and shadows than by hearing a thousand lectures.

It appears that the photographing of light and dark compositions are distinctly different propositions. If the composition covers the whole scale, it is impossible to obtain the height of perfection in both the light and dark portions, because the time of exposure necessary to produce correct gradation in the light portion will have elapsed many times over before you have secured full gradation in the dark portion. That is why strongly contrasting elements, when adjacent to each other, are practically bound to photograph out of value. That is why the hand is too dark to be in value when you shade it in contact with white drapery, and too white when adjacent to black. That is why a portrait of a man will show a strong dark shadow on the face, while the adjacent collar will be the same tone as on the light side. Much has been said about lighting faces so as to preserve the flesh tones—have them show through the catch-lights. As I have said, the catch-lights are simply reflections. They are a matter of texture, not of tone. It is simply a question of reflections or no reflections. You can't make the flesh tones of a negro or an Indian show through the catch-lights if there are any, any more than you can make the color of hair show through its gloss.

Any monochrome picture has only two elements—line and light, and shade or gradation. The lens will render lines with accuracy and proportions with exactness. I have decided that pictorial perfection depends upon:

The reproduction of light—exposing and developing.

The control of light—use of curtains and screens.

The manipulation of the manifestation of light—retouching and faking.

Atmosphere.

Atmosphere and Separation of Planes.—One might well consider that atmosphere, separation of planes and solidity go hand in hand—so much does atmosphere depend upon the last two elements.

One must always remember that it is not the thing or object itself that makes an impression upon the eye or upon the plate, but the light that comes from or is reflected by it.

Solidity or the third dimension may be *indicated* by the perspective of the outlines of the solid. It is *expressed* by gradation. It is practically the direct result of light falling from one side. In your work it is a matter considered chiefly in connection with the rendition of rounded surfaces. Briefly explained, —from the light to the shadow side of a rounded surface is a constantly decreasing

scale of tones or gradation, so whenever you wish to represent the rounded surface of a solid you must show the gradations indicated in 180 degrees of this circle. Any half of this circle will do justice to the thing itself, but in association with the other elements of a composition it becomes a matter requiring the most careful artistic consideration, as I will endeavor to explain. I emphasize this matter because of the fact that the human figure is a mass of cylinders—neck, torso, legs, arms and fingers.

We must first agree upon the meaning of the phrase, "separation of planes." One thing is certain, a plane has surface only—it has no thickness. As I understand it, when we consider planes pictorially we must consider them as being absolutely parallel to the surface of the plane of the paper, so that any object having solidity must be considered as cutting into or being inclosed—surrounded by innumerable planes.

The outlines—lines surrounding a surface—may indicate that different portions are in different planes, *i. e.*, at different distances, but any surface that is represented in your picture by solid, unvarying tone cannot of itself indicate more than one plane or distance. As soon, however, as the least gradation is introduced, there comes a change, portions begin to advance or recede—gradually or abruptly, just in the degree that your gradation is blended or in contrast. Another thing you might well consider in connection with an area of unvarying tone in a picture is that it is absolutely without interest—it simply blocks the vision. The inclination of the eye is to travel to the edge as quickly as possible in order that it may advance—proceed to something that is interesting or important. You know it is utterly impossible to picture anything but the surface of a solid—you cannot picture the inside of it—and you must also see that the only way to truthfully represent that surface at its varying distances is by gradation. All that I have said about the necessity of gradation to produce the separation of the planes of a solid applies as fully and pertinently to the separation of planes in atmosphere or space—which is not necessarily the same thing as atmosphere.

I have taken this familiar object to represent the planes occurring in the cubical space of a picture. Although our view is really like this (Fig. 3) we try to get this funnel shaped effect in our picture. Of course you understand that these planes we speak of are purely imaginary—they exist at every distance. These gradations simply represent the planes of these various distances. After seeing this view you can easily imagine the exact location the various planes would occupy if you were to be allowed this view at right angles. This is the test that you must always apply mentally to your production: Does every portion set back to the place it would appear if viewed in

Fig. 3.

profile, *i. e.*, a point at right angles to the point of view being considered.

Separation of Planes.

When these things are successfully accomplished, we speak of a picture as *standing in*, *i. e.*, the nearest object should never appear nearer than the paper plane (oftentimes it is not so near) and all the distances recede from that plane The first mechanical consideration is that there can be no representation of distance at the absolute edge of the print if unmounted or unframed. (Example picture.) These two cards show how the mount may assist to render infinite distance. The second principle is that the natural course of observation is from the ground up—even in case of suspension we inspect the thing first, then seek the means of suspension. This being true, it is evident that you must so arrange the composition of your picture that the portion which ties to the bottom margin or the first thing above it to attract the eye must represent the object or that portion of the object that was actually nearest the point of view. This picture may assist you in catching the theory of getting into a cubical space.

For the third principle I would say that in every instance—whether it be in nature or in a picture—light always attracts the eye first. It matters not how interesting the mystery of shadow may be—how many times the eye may return to penetrate its secrets—the eye uncontrollably, inevitably turns to the light.

The application of this to your productions

in the rendition of solids ought to be very evident. The simple way to make the surfaces of your solids recede to their proper planes would be to have the nearest planes receive and consequently reflect the strongest light. I do not say this is the only way, but it is the simple way.

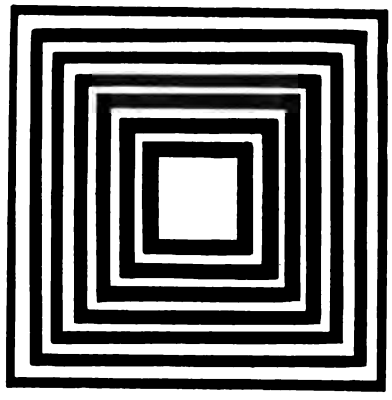


Fig. 4.

In connection with the planes of your atmosphere or, more properly, your cubical space, the same principle holds true. As this (Fig. 4) will show you, the eye will pass over innumerable barriers of darker gradation as long as it sees the light beyond. As I showed you by these cards, one gradation or change of tone may represent infinite distance which is, of course, all that can be done by any greater number, but it often happens that you desire to present the distances of various objects or planes; then, if there is nothing in your composition to secure the effect, the introduction of proper gradation will remove all deficiencies.

Atmosphere,

which Marshall characterizes the final touch of perfection, and without which he says the picture fails in its final and most subtle charm, is most undoubtedly the most difficult element to define as to what it is or how it is obtained. (Fig. 5). You must first understand—yes, you must feel that all this space is filled with air. A painter once told me that painters always thought of atmosphere as air, and air as something blue. I have seen times when the air was something blue around my place, but it is not in the operating room—more likely in the workroom. Seriously, I am inclined to the belief that atmosphere is wholly a matter of color. If the painter paints his atmosphere as something blue you may rest assured that he paints it *all* blue, *i. e.,* all this cubical space he fills up with blue air. Then, of course, all these objects or points of interest which really make his picture, we are obliged to see through more or less of this blue air according to the amount of space or distance between the object and the point of view. You are denied the use of color in your work at present, but you do not need it. *Painting* is a matter of color. Speaking of atmosphere, John LaFarge says that the most subtle gradations of atmosphere in a painting are chiefly a matter of color, not a matter of light and shade. When a painter paints one of these beautiful gray days, the universal mark of all artistically inclined photographers, he paints it all gray. The æsthetic painter, when he stops to admire it, will see color, color, everywhere—delicate tints of blue, yellow, pink and violet, because *he knows they are there.* But to you and me and everyone else but the painter, it is all gray—just as gray as though it were but the gray tones of your common platinum print There is but one lesson in all this, and that a very plain one. If you are aiming for atmosphere you must get a solid or single tone all through. If your print is in sepia, it must be all brown. If it is regular platinum or platino, then it must be all gray. If, in your mind, pearly whites and velvety blacks mean artistic excellence as well as technical excellence, you simply want to forget it.

Added to this comes the fact that the more of this colored air you are looking through

Fig. 5.

the more indistinct will be the object. By the variation of your focus you may control the definition of details. So we may sum up the situation thus: Correct gradation and arrangement of gradation will give solidity or the third dimension to solids, and set each part in its proper plane. Correct gradation

and arrangement of gradation in the cubical space of the picture will give the correct idea of distances between the different solids or planes. Correct or discriminating focus will render details according to the amount and density of atmosphere through which they are seen. A solid or single tone or color will fill the cubical space with the color of atmosphere. The pitch or key of the picture—to be definite, the tone you allow to represent the high lights—gives the correct rendition of the amount of density of this atmosphere. Finally, I believe that the control of all these pictorial elements of artistic composition may be mastered as fully as the common technical elements of photography and eventually become as positive and automatic as focusing and exposing.

Now after all these pictorial and technical considerations, there comes the most important one of all.

What Excuse Has the Portrait for Existence?

Are you master or servant when a customer comes to you to have you make their portrait? If they pay your price, have you any license to force them into the pose and general effect of the old masters' productions made several centuries ago? Are you under any moral or ethical obligation to reveal to their family and friends their wonderful personality and dominant characterisics? One of your most able critics in his recently published appreciations calls attention to the idea held by one most successful worker, that he can hypnotize or influence his sitter into a forcibly notable characteristic expression, while another also very successful portraitist says this is impossible. But the critic says an examination of some of this latter gentleman's books of proofs seems to indicate no little capability in this direction. I am inclined to believe that this latter gentleman's books of proofs would give anyone a far better impression of the sitter's individuality than any *one* portrait by the former; in other words, the portrait that fully pleases the sitters and all their friends must be a composite. We do not all see alike. Again, ofttimes a person's most dominant characteristics are far from being their most pleasing ones. If you are making a portrait to be hung in some public place, it is your mission to make something powerful—something to the honor of your subject and the glory of yourself. But when you accept a commission to make a portrait for money, you must present that person as he and his friends see him, not as you see him or as your superior perception would dictate. Your second duty to your profession—to your brother craftsmen—is to include or incorporate in that portrait every bit of artistic excellence that your knowledge and experience will permit for the amount of money you are to receive, and it is your further duty to so perfect yourselves in the technique of your craft and the fundamental principles of art that your production will never be *entirely* lacking in pictorial qualities. I defy anyone of you to prove that you ever had a customer who would not cheerfully accept and pay for a portrait made in accord with pictorial principles, provided the resemblance was satisfactory. They might not be pleased with any pictorial production you ever made or could make—but that proves nothing—nothing but your own lack of creative ability. There is more variety—both in conception and execution—in the productions of the old masters many times over than in the photographic work thus far accomplished.

It has been proved, or at least claimed, that even the plate's capacity to instantaneously catch the momentary fleeting expression is insufficient to secure the personality, the spirituality, to make a powerful portrait. If it is impossible for subjects to look like themselves there is but one possible course to reach prfection—it rests with the retouching or manual labor performed in addition to the strictly photographic work.

Recently a painter remarked to a critic that, after all, portraiture might be considered as simply a matter of the rendition of surfaces. The critic objected to this. He pointed out that possibly the modern painter might equal the old masters in the reproduction of surfaces but remained outclassed in spiritual expression. I am aware that the so-called straight photography is a sacred thing in the eyes or minds of some, nothing but the negative and the print are legitimate. By their standard, if an expert in a watch factory should use his jack-knife to whittle out a watch with his eyes shut, it would be a work of art even if it wouldn't "go," just because he went about his job the most awkward way—and it was all straight whittling. I have endeavored to show by quotation from highest authority that the highest qualities of pictorial art are the emotional quality and the spiritual quality. I have endeavored to show that the emotional quality rests in gradation and that gradation is readily within the capacity of photographic work. Shakespeare said: "There's no art to find the mind's construction in the face." I have attempted to show that the final perfection of the spiritual quality, if lacking, must be as with the painter, through the dexterity of the hand. If you make a positive plate as I have advised, you have a medium on which to transfer all the spiritual conceptions of your mind, without losing in the slightest degree any of the emotional quality of your original gradations. Finally, with but few of the painter's limitations, you have all of his advantages and opportunities except color. Time alone can tell how soon this advantage may be yours. (Applause.)

MAINLY ABOUT PHOTOGRAPHERS

We have pleasure in presenting on another page of the magazine, an interesting portrait group, entitled "The Surprise Party." While Pirie MacDonald and Joseph Byron were in London, unknown to the former, B. J. Falk arrived and conspired with Mr. Byron to give Pirie a surprise.

A dinner was arranged, and he was invited to meet Mr. H. Snowden Ward and Walter Barnett. Just as they were about to begin dinner the lights suddenly gave out and, preceded by mysterious sounds, a Knight Hospitaler stepped from behind some curtains, clothed in the white mantle and helmet of the order. This in itself was somewhat of a surprise, but it was very much more so when the lights went up and the Hospitaler was found to be none other than his old friend B. J. Falk.

A merry dinner followed and our picture was made when Pirie had almost gotten over the surprise.

We are very sorry that there is not a sixty-mile-a-minute airship service between New York and St. Louis. From J. C. Strauss, of the last-named city, we have received the following invitation, and we very much regret our inability to be present.

"The Fellowship of Rebellious and Obstreperous Growlers cordially request you to meet Mr. Nahan Franko at ten o'clock P. M., Thursday, September the twentieth, at The Growlery, Strauss Shop. Professor Franko will Hang up the Fiddle and Bow, presenting a solo performance from his most popular concoction, *Spaghetti*.

"P. S. —Please omit evening costume, cigars, ladies, opera glasses and bouquets."

The "Continental Coterie" is booked for a two-day session at Buffalo, September 23 and 24. For the benefit of the uninitiated we may add that the coterie includes such shining lights as Strauss, Stein, Steffens, MacDonald, Pierce, Janvier, Clark of Detroit, Hall of Buffalo, and Rinehart of Omaha.

As we go to press we have not learned whether it is to be a "Business Convention" or a plain ordinary gathering. Speaking of coteries, Mrs. Gaskell, the biographer of Charlotte Bronte, has this to say of them: Coteries, whether they be literary, scientific or political, must, it seems to me, have a tendency to change truth into affectation.

President Hearn should train his long distance telescope on this group—he may possibly find an "Academy" ready made.

It is well known that the sea-faring man and the horse were never very close friends, but we were surprised to learn that the automobile did not take kindly to the photographer. E. B. Core recently purchased a $5,000.00 Locomobile and set out for a city in Illinois. Unfortunately for him the works gave out before he reached his destination. Here photography came to Mr. Core's aid, and he decided to ship the car to New York to be "fixed;" but on the way home the car conveying the auto got mixed up with some others rather hurriedly, so now Mr. Core is taking photographs instead of auto rides.

From the Toledo *Courier-Journal* we learn that Mr. W. F. Van Loo, of that city, has just opened one of the finest studios in the state of Ohio. An old mansion has been remodeled and thoroughly well equipped for photographic purposes. The extensive grounds with their trees and shrubs offer exceptionally good opportunities for large groups, driving parties, outdoor portraiture, etc. Almost all of Mr. Van Loo's sittings are made by appointment.

We wish Mr. Van Loo much success in his new location

TRANSFERRING COLLODION AND GELATINE POSITIVES TO PATENT LEATHER.

BY A. J. JARMAN.

To transfer a collodion positive from a glass plate to any other material, such as patent leather or a well glazed black oilcloth, is not at all a difficult matter, neither is it a long or expensive process, the result obtained being superior in quality compared with a similar portrait upon glass, backed with either black velvet or black varnish. Transfer can also be made upon mica or transparent celluloid. When it is not possible to secure a collodion positive, an ordinary gelatine dry plate may be employed and the negative image obtained upon this kind of plate can be transformed into a positive, which is easily stripped and transferred to any of the above materials. The advantage to be secured by this method of producing a photograph lies in the fact that there is a quality about these transferred pictures that is not produced by other means. It will be observed that such prints present the surface that had hitherto been in contact with the glass plate. This reversal of the film is necessary to present a portrait in the correct position. It is this surface that gives the peculiar property these pictures possess. In the transfer of a collodion positive the use of a substratum is not necessary to cause the film to adhere to the surface of the patent leather or oilcloth, there is just sufficient tackiness in the surface to permit of perfect adhesion. A necessary point to be attended to is to be sure that a collodion is used that is tough and horny, otherwise the film will not be so easily removed from its glass support. The bromo-iodized collodion used in the making of ferrotypes (tintypes) will answer the purpose perfectly, because this kind of bromo-iodized collodion must of necessity be tough in quality to enable it to adhere firmly to the japanned surface of the iron plate. Having procured a collodion possessing the above quality proceed in the usual way to make a positive upon a piece of well-cleaned glass plate in just the same way as for producing a ferrotype; of course, the nitrate of silver bath must be in good working condition, capable of giving clean, clear shadows. The developer may be that made with proto-sulphate of iron as used in developing the ferrotype, or it may be made of the proto-nitrate of iron. In the latter case the image will possess more contrast, and the deposit will be of an intense silver white, possessing the appearance more of an electrically deposited image than one produced by chemical development; this latter method of development will not affect the skin-like quality of the collodion. The development must not be carried too far; if stopped at the right moment, then washed and fixed with a solution of cyanide of potassium, then well washed again, it will produce just the kind of collodion positive for transferring. Allow the plate to dry, then cut a piece of patent leather the size required, make up the following mixture:

Photographic alcohol .....1 oz.
C. P. nitric acid (38 degrees).

ten drops, *not more*, or the film will become injured. Have ready at hand an ordinary printing frame, say 4x5, with a clean 4x5 piece of glass therein; pour a few drops of the above mixture upon the surface of the leather, then wipe it carefully with a tuft of absorbent cotton until the liquid flows freely, and to clean the surface see that no pieces of cotton fibre adhere. Now pour some of

the same liquid over the glass positive, place the piece of patent leather down very carefully upon the wetted film by holding the leather like the letter U, bring the ends down upon the plate without slipping, place the positive and leather in the printing frame upon the glass plate, and place upon the leather a piece of blotting paper; insert the back of the frame and adjust the spring without slipping, turn the frame over, when it will be found (if the operation has been performed right) that the leather is in perfect contact with the positive image. The frame may now be stood aside for about one hour or for an hour and a half to allow the surface to become quite dry, when the frame may be opened. Upon lifting one corner of the leather with the blade of a pen knife it will be found that the positive photograph has been entirely removed from its glass support and firmly adheres to the leather. It is advisable when the patent leather has been placed upon the positive to examine the plate from the front to ascertain whether there are any air bubbles or not; if there are any, the leather must be carefully removed and a further quantity of the alcohol and nitric acid mixture poured upon both the positive and the leather, then replaced and adjusted in the printing frame. These air bubbles rarely occur, but if they do they must be got rid of by the above means.

The surface of the positive must not be brushed or wiped, if it is it will be ruined and a second positive would have to be made. The whole operation is extremely simple and one need not fear failure if only ordinary care is exercised in the operation, and the formula given attended to as to the proportion of ingredients. There will be no need to varnish the film; it will be found that the surface presents a high gloss, and the collodion film will be found to adhere very firmly to the surface of the leather.

In using black glazed oilcloth the operation is just the same, only the oilcloth must have a smooth surface, not mottled, because this kind of oilcloth cannot be pressed sufficiently into contact with the surface of the positive. Although air bubbles may not be formed, it would be found upon removing the print that it would present a considerable number of small shiny spots where the collodion film had not come into perfect contact with the surface of the oilcloth. The picture would then be spoiled. If a plate of mica is used, it should first of all be well cleaned and coated with a film of plain collodion, or it may be coated with the same bromo-iodized collodion that was used to make the positive, and placed into a tray of clean water before the film dries, so as to wash out the iodizing salts. It must be allowed to dry, and wetted with the alcoholic mixture in the same way as the patent leather, the back of the mica being brushed over with asphaltum varnish, after which it is ready for trimming and finished as required.

To transfer a positive made upon a gelatine plate the operation is very different. In this case the film must be stripped from the plate and placed upon the surface of the leather, or celluloid, or mica, as the case may be.

To produce a gelatine positive proceed in the following manner: Procure some gelatine plates that work somewhat slow, those plates that possess the general qualities of a lantern plate are best suited, and the developing may be carried out with a metol-hydrochinone developer slightly restrained with a ten per cent. solution of bromide of potassium. The object of this is to keep the shadows clear. When the exposure has been made, say, for a portrait, and developed so as to cause no fogging in the shadows, the plate must be thoroughly fixed, washed and then placed into a bath of chrome alum, one ounce of chrome alum to ten ounces of water. As soon as the crystals are dissolved the solution must be filtered and the

plate containing the image placed therein. The picture upon the plate will present itself as a weak negative; it will not matter whether the plate has been allowed to dry or not; the chrome alum bath is indispensable, the plate must remain in this bath for ten minutes, then be well washed and dried. As soon as it is dry it must be transformed into a positive, which is accomplished by treating the image in the following solution:

Bromide of potassium	60 grains
Bichloride of mercury	60 grains
Distilled water	10 ounces

Heat this is in a clean glass flask until the salts are dissolved, allow it to become quite cold, then add ten ounces more of distilled water and filter through absorbent cotton. Place the plate into this solution. In a very short time it will be seen that the image whitens up considerably. An addition of a few drops of citric acid solution may be added in the first place:

Citric acid	120 grains
Water	3 ounces

This will aid in keeping the shadows clear. As soon as the image presents an uniform white appearance, seen from the back of the plate, it must be removed and thoroughly well washed for fifteen minutes, then stood aside to dry again. The mercury whitening solution may be returned to the stock bottle for use over and over again. As soon as the plate has become quite dry the film is in a condition for stripping. The following solutions must be made up and kept ready for use in separate bottles:

Fluoride of sodium	120 grains
Water	8 ounces
Citric acid	240 grains
Water	8 ounces

If the plate used to make the positive upon is a 4x5, then take a clean 4x5 tray, hard rubber or a composition tray (*no other kind*), mix together two ounces of the above, then immerse the plate; rock the tray slightly, when it will be found that in the course of a few minutes the film puckers at the edges. The gelatine film can now be lifted clean off the plate by the forefingers and thumbs of each hand, then laid carefully into another larger tray of clean cold water.

The piece of patent leather that is to receive the film must be previously rubbed over its surface with a sugar syrup until no greasiness is observed, when a little clean water is allowed to run over the surface. When in this condition the gelatine film may be lifted from the water, dried slightly, then laid down upon the already wet surface of the leather. See that there are no air bubbles formed. If there are any, use a soft camel's-hair brush (an ordinary quill brush will do); dip it into clean water and stroke it lightly over the surface of the film. Any air bubbles that may be present will become easily removed by this treatment. The film and leather must now be left in a horizontal position to dry. A piece of thick blotting paper placed upon a sheet of glass forms a very good support for this operation, as the film is not submitted to any pressure for transferring as in the case of the collodion image. The drying of the film will occupy four or five hours. As soon as it is dry it may be placed in a printing frame upon a piece of clean glass, simply to flatten the leather out evenly, when it may be cut to the shape and size required. In the case of celluloid, or mica, a mixture of white gum arabic must be made up, as follows:

Picked gum arabic	1 ounce
Water	4 ounces

Allow the gum to soak for several hours, stirring occasionally with a silver-plated fork. The bottle should be stood either in a warm place or placed into a vessel of warm water until the gum has all dissolved. It should then be filtered into a clean wide-mouthed bottle through a piece of cheese cloth which has been wetted and then wrung out to get rid

of the excess of water. It will now be found that the gum solution is free from dirt particles and fit for use. To transfer the gelatine film to celluloid proceed as follows: Clean the surface of the celluloid well with a tuft of absorbent cotton dipped into water in which a small quantity of strong water ammonia has been added. This will rid the surface of any slight trace of grease or adherent dirt. Rinse the celluloid in a stream of running water, then pour a small pool of the gum solution upon the centre; drain the excess into the stock bottle, then place the celluloid under a light stream of water for a second or two. This will wash off the bulk of gum solution, but there will be just enough left upon the surface to cause perfect adherence of the gelatine film. If any air bubbles should be found, treat the film just the same as in the case of the patent leather with the camel's-hair brush, and allow the film to dry in a horizontal position. The reason why these gelatine films must be dried laying flat is because the weight of the film is apt to cause a slight cracking if placed upright by its drying upon the top or side edges first. It will be found that the film adheres perfectly to the celluloid by this means. If mica is used it must be treated in the same way as celluloid. The gelatine surface is admirably suited for coloring, giving as it does an excellent tooth. These celluloid or mica portraits may be backed with either black velvet or black varnish. The following developer answers the purpose well for developing a clear and thin image suited for the transfer process:

No. 1.

Metol	12 grains
Hydroquinone	25 grains
Hot water	15 ounces

No. 2.

Sulphite of soda	60 grains
Water	5 ounces

Dissolve and add to No. 1.

No. 3.

Carbonate of soda	35 grains

added last, then shake the mixture well until the carbonate of soda is quite dissolved. Make up a solution of

Bromide of potassium	½ ounce
Water	10 ounces

When the above mixture is quite cold it is ready for use. To develop take four ounces of the developer and add four or five drops of the bromide solution. This will aid in giving clear shadows, and if there is more than one plate to develop the developer may be used several times without any further addition of the bromide solution. To secure the best kind of image do not over-expose, keep the time of exposure down. If the exposure has been too long, then the shadows become clogged in the whitening process and the brilliant clear image desired will not be obtained. In every other respect there will not be any difficulty in securing good and satisfactory results.

The process described for the stripping of the positive image applies also to the stripping of a negative film. The use of this will be apparent to everyone who has had the misfortune to break a negative, especially where the gelatine film is not ruptured. In applying this stripping process to a negative the film must be well hardened by treating the negative with the chrome alum solution described, or with a solution of formaldehyde to prevent the film from expanding by the absorption of water. In every other respect the film can be stripped and transferred to a clean glass plate in just the same way as has been described for the transfer of a gelatine positive, and thus a valuable negative can be saved.

When a gelatine positive has been transferred to patent leather it may be perfectly protected against the action of moisture (even when colored) by dipping the complete picture into a saucer containing a small quantity of alba varnish. This varnish does not affect the pliability of the leather nor cause the colors to run; it forms a thorough protection for the gelatine film.

REPORT OF THE CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF NEW ENGLAND.

Boston, Mass., August 21, 22 and 23, 1906.

The New England Convention, second only in importance to the National, whilst having almost the largest attendance on record seemed to suffer somewhat from the great heat then prevailing. Possibly it was felt that two conventions in the month of August is putting too much strain on convention enthusiasm.

The lectures and talks were enjoyable and instructive and the pictures exhibited were above the average.

TUESDAY, AUGUST 21ST.

Opening address by the President, C. Johnstone:

Members of the Association, Mr. Draper, Ladies, Friends: I am going to be very brief this morning, for it is hard work to get you all in here. I wish to say that we have had to change our program, as Professor Griffith has disappointed us.

There has been so much said in regard to the ethics of photography that I thought I would take up that subject, but I have decided that it is not a good thing, perhaps, for me or anyone else to try and lay down laws or rules for another, so I am going to pass by that, but I want to read just a word from the Association Annual of the P. A. of A. I happened to pick it up and found that Miss Mary Carnell says: "The ethics of all professions consists in doing unto others as we would have them do unto us, which is the very best trait that we can possess."

Then, again, I find here from George Tingley, one of our past Presidents, "A high line of ethics and respect for ourselves or others, with less scramble for work at reduced rates, would entitle us to a cordial share of the respect of the public at large. Try the best we know how, it would be a difficult matter to place photography on a plane equal to that of other professions, as there is nothing to prevent anyone from starting in our line and, if they wish, demoralize the dignity of the art in many ways." So I thought this was what I would like to speak on for a little while.

What I had looked and hoped to see, before we parted here, was to have this Association incorporated. It has been spoken of and some steps have been taken toward it. I said "incorporated," because I find that if we wish to confer a degree upon a photographer who submitted work to the judges asked to pass upon it and it came up to the required standard, it would have no value unless we were incorporated, because anyone could come along and take the degree.

I do not want, when I say that, to belittle the man who does not get $10. for his pictures. That is not so, but I want to have him pass that Board of Judges, and then I want to have him feel he is entitled to a degree, and can use it in his profession. What incentive is there for a man to be a photographer? I had a man say to me in my own city, just the other day, "I would like to go into business, but what is the use of my putting my money into a business, when any man can come along and do just the same as I have?" Now, I would like to see this overcome.

I am in hopes that I will be able to fix some meetings with you all while here, so that we can talk this matter over and see what can be done for our own benefit, not from a selfish motive, but for the benefit of us all.

Now, there is a gentleman here who has been waiting over an hour, so I am going to defer whatever remarks I may

make and introduce Mr. Charles M. Draper, Chairman of the Board of Aldermen of Boston.

Address of Welcome by Charles M. Draper, Chairman of Board of Aldermen, Boston, Mass.

MR. PRESIDENT AND MEMBERS OF THE PHOTOGRAPHERS' ASSOCIATION OF NEW ENGLAND: For your sake it is to be regretted that his Honor, the Mayor, is not with you this morning. He wished me to say that he was deeply disappointed that he could not be here. For my own sake, I am very glad of the opportunity to extend to you the welcome to our City, and to ask you to accept its hospitality.

I think there are many here from the City of Boston, and it is needless, therefore, for me to call your attention to our many advantages. You are in the hands of your friends, and I am sure that those photographers who live in Boston will see that our reputation for genial hospitality and for courtesy will be fully sustained by their friends

For the City of Boston, I extend to you all the heartiest and best reception that you can possibly have.

Response by Samuel M. Holman.

MR. PRESIDENT, MR. DRAPER, MEMBERS OF MY OWN ASSOCIATION: I think with the thermometer where it registers this morning, and the warmth and geniality of our own feelings, that brevity is surely the soul of wit, and following out that precept, I will make my remarks very brief.

It is with pleasure—a formality, but a pleasure—to be welcomed to a city by its official head, or his representative. Perhaps we fellows feel this more than you girls, for we feel that we own the City of Boston, yet it is nice to have it handed out to us when the New England boys and girls come into their own city of Boston, we feel a little more latitude in going around the streets, seeing the public buildings, belonging both to the State and City, when we have been offered the key of freedom to that city, as we have this morning.

We thank you very much for the extending of the courtesies of the City of Boston, and we appreciate your presence and your offer, and will accept them with the greatest hospitality.

Five-Minute Talk by C. W. Hearn, President of P. A. of A.

MR. PRESIDENT, LADIES AND GENTLEMEN OF THE PHOTOGRAPHERS' ASSOCIATION OF NEW ENGLAND: I am very glad to be with you, and I am very glad for two or three things that I have been put down upon the program. When I was informed some two or three weeks ago that I was down on the program, I wondered at it, as I had not been informed to that effect. The next day came the program, and I was very much amused at it. In the first place because it showed me the wisdom of your Executive Board that they had only put me down for a five-minute talk. And another thing, that they were so nice and so polite as to tell me that it was only to be five minutes.

However, that is not too short a time for me, as President of the National Association of Photographers, to pay just tribute to two of your officers.

Week before last we had our Convention at Niagara Falls. I had to secure some one to direct certain parts of that program, and one thing above all others that I desired to have taken care of efficiently was the Reception Room discussion. In casting my eye over all members throughout the country, bringing this one's qualifications and that one's to my mind, it seemed to me the one above all others fitted for that task would be your President. I presented it to him and he very kindly consented to take that part of the management of the discussion upon the Reception Room Method. Although Mr. Johnstone started the thing himself and said something about

Christian Science, he had the work of his life to prevent it from becoming a prayer meeting. He very deftly, however, turned the scale to the purpose for which we were gathered together, and during the meeting he proceeded so nicely and so well that there was a vote of thanks given him especially for that purpose.

I want to tell you that I am very much interested in the selection of the honored pictures by the vote of the Convention, because I was up against the proposition of selecting a jury for this purpose and there was so much opposition. I do not think it is possible for anyone to select a jury but what he gets roasted. But I stand behind the work of my jury as honest and fearlessly just. Now, we will see what the voice of the people is, for it is said that the voice of the people always controls such things. My five minutes must be up, and I fear it is seven, so I will just say I thank you.

WEDNESDAY, AUGUST 22, 1906.

Nominating Committee Appointed by President.

George Tingley, Mystic, Conn; L. L. Anderstrom, Bristol, R. I; Oscar Murray, New Britian, Conn; F. A. Frizzell, Dorchester, Mass; Mr. Kennefick, Lawrence, Mass.

THURSDAY, AUGUST 23, 1906.

Report of the Secretary, Mr. J. H. C. Evanoff.

It is impossible for me to give you a final report at this time, but I can report on the Souvenir Program as follows:

Report of the Treasurer, Mr. S. M. Holman.

MR. PRESIDENT AND FELLOW-MEMBERS OF THE ASSOCIATION: It is now six years that I have stood before you and made a full report, and I want to say this year what I have said in all past years, that it is impossible to render you a report of the business of this year now, for the reason that the business end of this convention is changing every moment at the box office down stairs. The only final report that I can give at this Convention is on last year's work,—that I can give you, telling you exactly how we stood last year.

When all bills were paid on January 1st and the books audited, we had run the year's business and made a clear profit of $385.43 over and above all expenses, leaving a cash balance of $1,157.25 to begin this year's business with.

With one exception, which was two years ago, this is the largest Convention the New England Association ever held. I imagine this is a matter of some surprise to some people who have been talking the reverse side of the proposition. There are two reasons why this has dropped below the convention of two years ago. First, two years ago we had with us the New York State boys, and two years ago they withdrew from the organization and formed an association of their own, which took away from our membership fifty people. Then again, the National was held at Niagara, right on the Canadian Province line, and the result was that our Maritime Provinces members who would have come to our Convention otherwise, with the National right at their doors, preceding this convention by only two weeks, found it cheaper to attend the National. We would have had seventy-five at least from the Provinces here had it not been for the fact that the National was held at their very doors this year. These are the two doors this year. These are the two things that have mitigated against a larger increased attendance this year. But in spite of these two drawbacks, we have had paid admissions. up to twenty minutes ago, of 575 members who have actually been in here and paid for their badges, making it the second largest in our history. There are some of our members who have become pessimistic in the last two days and they may now become optimistic and cheer up.

That is all that I can tell you of this

Convention. I will tell you all about it when we meet again, which I hope will be when it is a bit cooler. Of course, some of you are busy one month and some at another, but if we could hold this Convention the first week in September, we might not have to come here and suffer from the heat as we have this year, and I hope a little later the President will give you an opportunity to express yourselves on this subject, as I should like to hear the opinions of this Convention on the subject. If this time suits you best, your officers can stand it if you can, but it seems to me a little cooler temperature would be more agreeable for us and give us a larger attendance.

Moved and seconded that the reports of the Secretary and Treasurer be accepted. Unanimously carried.

Report of the Nominating Committee, read by the President.

To the Officers and Members of the P. A. of N. E.: Your nominating Committee begs leave to report as follows:

President, J. C. Bushong, Worcester, Mass.

Vice-President, J. H. C. Evanoff, Boston, Mass.

Secretary, George H, Hastings, Haverhill, Mass.

Treasurer, S. M. Holman, Attleboro, Mass.

Vice-President for Maine, Harry Plummer, Lewiston, Maine.

Vice-President for New Hampshire, Richard Kimball, Concord.

Vice-President for Vermont, Christine Bau, Barre.

Vice-President for Rhode Island, Henry T. Koshiba, Providence.

Vice-President for Connecticut, E. M. Jackson, Norwalk.

Maritime Provinces, G. A. Gauvin, Halifax, N. S.

Mr. J. C. Bushong, declines the nomination for President, as his arrangements for next summer would make it impossible, whereupon Mr. Parkinson nominated Mr. J. H. C. Evanoff for President. This motion was seconded by Mr. C. W. Hearn and Mr. Evanoff declared unanimously elected by yea and nay vote.

Response by Mr. J. H. C. Evanoff.

Mr. President, Ladies and Gentlemen: I do not want this position at all, but I assure you I will do my best for the Association. I thank you.

Mr. W. E. Marshall was nominated and unanimously elected as Vice-President.

Mr. Parkinson, Mr. Partridge and Mr. Oscar Murray were appointed as tellers.

Mr. Holman was declared elected Treasurer.

Mr. Hastings was declared elected Secretary.

Mr. Hearn made motion, seconded by Mr. C. W. Kelley, that the State Vice-Presidents be elected by the casting of one ballot. Unanimously carried; ballot cast and those given in above list declared elected.

Announcement of Prize Winners, read by Mr. F. C. Chalmers.

Grand portrait prize—gold medal, Garo, of Boston.

Class A—10 Silver Medals, 25 Bronze Medals. Silver Medals named in order of number of votes received.

Silver medals, 1. Byrd Studio; 2. Parkinson; 3. Whitman Studio; 4. Kimball; 5. Aram; 6. Thibault; 7. R. L. Barrows; 8. Heath Studio; 9. Noetzel; 10. Wolfboro Studio.

Class B—2 Silver Medals and 3 Bronze Medals.

Silver medals, W. H. Manahan, Jr; G. E. Tingley.

Bronze medals, Wm. H. Mills & Son; C. L. Powers; W. H. Partridge.

Mr. Hearn made a motion, which was seconded by Mr. Alfred Elson, that a vote of thanks be extended to the retir-

ing Board for their efficient labors in behalf of the Association, and the way they have pulled the Convention off this year with such a good showing as the Treasurer has related. Unanimously carried.

Mr. Hearn made a motion, which was seconded, that the Executive Board be empowered to fill any vacancies in the list of officers. Unanimously carried.

Moved and seconded to adjourn.

WITH THE MANUFACTURERS AND DEALERS AT THE NATIONAL CONVENTION.

CONTRARY to expectation the manufacturers and dealers made an unusually good showing at the convention. The booths were numerous and goods were most attractively displayed, and though the space devoted to the trade exhibits was spread out over various rooms and corners, the arrangement did not interfere with the attention. Lenses, mounts and sensitized papers were well represented; there was also a good sprinkling of specialties and novelties.

The American Aristo Co.

made an attractive display of their well-known paper in the various grades. Negatives made with the Aristo Lamp were also exhibited. The Aristo School demonstrating all the papers made by the company was well attended. The exhibit was in charge of Mr. T. W. Pattison, assisted by R. W. Barbeau, F. F. Hazlett, J. F. Rice, C. T. Meacham, Fred Beeker, H. H. Hopkins, W. P. Wentz, W. Lansing, Otto Boehn, J. N. Mutton and C. L. Bouton.

The C. P. Goerz Optical Works

were evidently seeking premier honors as the most attractive display, and were certainly entitled to the position. Their exhibit, in the form of a studio, was completely fitted up for practical portrait work. With the aid of an Aristo Lamp many portraits were made. Relic hunters could have their portrait made with a lens that had passed through the San Francisco ordeal. A case of charred and twisted lenses bore evidence to the fierceness of the fire. The chief decorative feature of the exhibit was the handsome silver "Goerz" cup, awarded this year to Mr. Garo, of Boston, for a splendid portrait of a girl, conceded by all to be the best picture shown at the convention, and made by a Goerz lens. Mr. L. J. R. Holst was in charge, ably assisted by Mr. A. K. Boursault, Mr. Benson, Mr. Otto Goerz, W. Lessier and Oscar Chinnard.

J. H. Dallmeyer, Ltd

This well-known house was represented by Mr. Burgess and made a very fine display of pictures, all from the studios of prominent photographers using Dallmeyer lenses. A list of names of the artists who were represented by pictures would read like a list of the hundred best photographers. Mr. Burgess was a hard-working man during the convention and will doubtless be able to report good business to his house.

M. A. Seed Dry Plate Co.,

making no special display, were represented by Mr. M. A. Seed, who, by the way, makes a point of attending each national convention. With him were Messrs. Allan, Guthrie, Jones, Waide, Stamp and Richardson.

Berlin Aniline Works

Mr. F. Harry Hall, manager of the photographic department, succeeded in keeping the "Agfa" specialties very much to the front. Well known all over the world for their good qualities, by the time Mr. Hall left Niagara Falls they would be especially well known to his numerous callers.

Bausch and Lomb Optical Co.

made a very fine display in the main hall, carrying a full assortment of their lenses and shutters, including their F. 22, the largest portrait lens made. The company had the use of a studio immediately opposite the entrance to the convention hall, and frequent demonstrations of their lenses, notably the portrait Unar, were well attended. From what we heard this popular lens will find its way into many new studios at an early date. Two of the Salon pictures are credited to the lenses of this firm, Mr. Hoyt's and Miss Belle Johnson's.

Visitors to the booth were well taken care of by Mr. Edward Bausch, assisted by Jos. Hammele, J. O. Jarrell, W. V. Moore, I. D. Kingsbury and S. Lawrence.

G. Cramer Dry Plate Co.

We cannot imagine a national convention without Papa Cramer. At the opening session he was on hand with his well-known advice, "Be happy." The company had a studio fitted up and made negatives on the Cramer plates. Assisting Papa Cramer were Messrs. Dorella, Sheets, Carrick, Hart and Schaffer. Perhaps the most popular set of prints to be found at the convention was the series of colored character sketches of "Papa," which he kept in a drawer; they were much enjoyed by all who saw them.

Jos. Di Nunzio

made an especially neat and attractive display of sepia prints on the famous Angelo Sepia Platinum paper. Demonstrations of this paper were well attended and good business was going forward. Assisting Jos. Di Nunzio were Miss Dooley, W. H. Fanning and J. E. Marshall.

The Hammer Dry Plate Co.,

represented by their secretary, Mr. R. Salzgeber, C. O. Towle, E. Racette and Mr. and Mrs. C. W. Taylor. The Hammer stick pins are as popular as ever and were very much in evidence.

Willis and Clements

introduced their latest production "Japine," a valuable addition to the ranks of high class printing papers. The samples shown were in two surfaces, matt and glazed. This paper provides photographers with a surface that has long been sought for—a sepia brown with a half glossy effect to be found in some carbon prints.

We understand that Japine has twice the printing latitude of platinum and its damp-resistive qualities are very much greater.

A new storage-tube for platinum papers came in for a share of attention. The firm was ably represented by Messrs. Deetrich, Schwab and Brackett.

A. H. Uhrig, Gallipolis, Ohio,

showed an embossing press that attracted much attention and sold like the proverbial "hot cake." It is a press of unusual roominess and strength. A photographer doing his own embossing on one of these machines would be money into pocket at the end of the year. Retailing at $25, it will be a useful and money-saving addition to any studio. Our old friend Geo. G. Rockwood purchased one and remarked to us that it was the simplest and best press he had seen.

Eastman Kodak Co.

One of the exhibits that attracted a great deal of attention was the new dry mounting machine shown by the Eastman Co. After watching their machine do its work we came to the conclusion that the day of the paste pot and brush was passing. Thick or thin, all mounts were alike to this machine. The absence of any tendency to curl is a strong point in its favor.

Voigtlaender & Son Opt. Co.

were showing their special portrait lenses. Mr. Yatman, in charge, informed us that the new Helia F. 4. 5 is a winner and selling well; its quality is shown by the fact that at least half a dozen convention awards were credited to this lens.

Trier & Bergfield

made a very attractive display of their well-known mounts, showing many new styles, Lucerne and Coronet mounts making a strong bid for popularity. The Cataract folder, a handsome folder, will create a big demand. The firm were represented by Mr. Belmont Bergfield, Mr. Lochman and Mr. Godfrey.

Geo. Murphy, Incorporated,

made an especially attractive display of carbon prints made by Olliver Lippincott on Autotype Carbon Tissue. Some idea of the beauty and size of these prints may be gauged by the prices asked for them, ranging from one to two hundred dollars. The Eagle Flash Lamp and Eagle Vignetters came in for much attention. The well-known Ross Lenses were also exhibited. Mr. George Murphy was on hand, assisted by G. Fraley and E. Clark.

Alphabetical List of the Salon Honors at the Niagara Falls Convention of the Photographers' Association of America.

F. R. Barrows, Boston; W. N. Brenner, Cincinnati, Ohio; E. B. Core, New York; Louis Fabyan Bachrach, Worcester, Mass; J. H. Field, Berlin, Wis; Elias Goldensky, Philadelphia, Pa; George G. Halloway, Terre Haute, Ind; Alfred Holden, Philadelphia, Pa; F. W. Hornbaker, Scranton, Pa; Dudley Hoyt, Rochester, N. Y; Miss Belle Johnson, Monroe City, Mo; T. Kajiwara, St Louis; John Kennedy, Toronto, Canada; Chas. L. Lewis. Toledo, Ohio; S. F. Lifshey, Brooklyn, N. Y; W. S. Lively, Mc Minnville, Tenn; J. E. Mock, Rochester, N. Y; Orr-Kiefer Co., Columbus, Ohio; Perry & Brecken, Allegheny, Pa; James W. Porter, Youngstown, Ohio; George Rogers, Detroit; Julius Strauss, St. Louis; J. Thibault, Fall River, Mass; George E. Tingley, Mystic, Conn; W. K. Van DeGrift, Toledo, Ohio.

One hundred and fifty photographers sent in pictures competing for Salon honors.

The Second American Salon had a very fine collection of one hundred and fifty foreign and two hundred and fifty American pictures as a loan exhibition. This magnificient collection occupied seven rooms on the second floor of the Cataract Hotel.

Rudolph Duhrkoop, of Hamburg, Germany, loaned a collection of some hundred and thirty prints and photogravures —all splendid examples of what photography is capable of at the hands of a master. They were very much admired.

Edward S. Curtis, Seattle, Wash., sent in fifty of his justly celebrated Indian pictures, 14 x 17 carbon prints, as a loan exhibition, and needless to say they received a very large share of attention.

Pictures Selected for the Daguerre Memorial.

We are informed that the Trustees of the Daguerre Memorial Institute have decided to offer a diamond medal at the annual convention of the Indiana Photographers' Association, to be known as the Daguerre Memorial Medal, and will be awarded by the Daguerre Memorial Institute.

Each picture winning the medal will be published in as many photographic and art magazines as possible, due credit being given to the maker. The Institute will also issue special certificates to all photographers whose pictures are selected for the permanent collection.

The pictures selected at the convention were made by the following: The Baker Art Gallery, Columbus, Ohio; H. D. Beach, Buffalo, N. Y.; E. S. Curtis, Seattle, Wash.; E. Fowler, Evanston, Ill.; J. H. Leonard, Racine, Wis.; M. B. Parkinson, Boston, Mass.; Perry & Brecken, Allegheny, Pa.; W. G. & A. J. Thuss, Nashville, Tenn.; Geo. E. Tingley, Mystic, Conn., and C. J. Van Deventer, Decatur, Ill.

A Wonderful Lens.—Accounts come from Vienna of a wonderful discovery in lens manufacture which, it is said, is going to revolutionize the industry. Nothing novel is disclosed in the information which has at present come out. The lens is said to consist of a fluid substance, enclosed between two unusually hard glass surfaces like watch glasses, but adjusted so as not only to hold the fluid, but to afford the necessary corrections. The fluid contained in the lens is hermetically closed, so that no air can enter and exercise a damaging effect. The fluid does not evaporate, and its composition is such that its properties are not affected by time or by temperature. It is said also that the lenses are thinner than glass lenses. They are described as being already manufactured in Austria, and are soon to be introduced everywhere.—*Photography.*

Examining a Shutter.—In an article upon instantaneous shutters by H. Wurtz abstracted in *The Photographic Journal* the photographer is advised to make a few experiments with his shutter that he may find out its qualities. There are five positions which it may occupy. It might be in front of the combination, between the components of the lens, behind the lens, some distance in front of the plate, or, finally, in contact with the plate itself. The very great advantage of a shutter immediately in front of the plate is that it admits a beam of light when the latter is at its smallest dimensions, and cuts it off again in the shortest possible time. Shutters in all other positions admit the light from any luminous point and cut it off gradually. All shutters ought to possess the following qualities: Regularity of movement, freedom from tremor, and good rendering.

Regularity of Movement.—Adjust the shutter to its lowest speed, and notice if it opens rapidly and closes the same. With some shutters these are variable, and they should be rejected. A shutter should not get out of order one day and be correct the next, so that one is never certain of the exposure. Springs suffer from fatigue, and the shutter should be tested at the beginning of each season. How this can be done will be described later in the series of papers from which these notes are taken.

Freedom from Tremor.—When a shutter is moved by a spring this latter generally tends to shake the apparatus and produces blurred images; it is easy to test if there is tremor by attaching a pointed pencil to the camera perpendicular to the plate. Mount the camera, with shutter attached, on the tripod to be used, and so adjust a piece of paper on a wall or other support that the lead release the shutter at the different speeds indicated and observe if any mark is made on the paper. If marks are made on the paper the shutter does not move smoothly or the tripod is not sufficiently rigid. Try another tripod, and if this does not cure the defect the shutter should be rejected.—*Photography.*

Eliminating "Hypo" from Negatives and Prints.—Herr Gaedicke has studied this subject from several points of view, and his results have been previously recorded, but now it may be mentioned that he finds the use of a ten per cent. solution of ammonium chloride for the first washings of a plate eliminates the hyposulphite twice as rapidly as when plain water is used. In actual practice he recommends the following course: Wash the negative for one minute under the tap, then allow it to remain for five minutes in a ten per cent. solution of ammonium chloride, 100 c.c. being used for a plate 13x18 cm. After this the plate should be soaked in five successive changes of water, and should remain five minutes in each. Various theories of the action of the ammonium chloride are suggested.—*Amateur Photographer.*

TRADE NOTES.

THE recently issued catalogue of the new Royle-Richards Engravers' Ruling Machine is just at hand. It is a beautiful, dignified example of modern catalogue-making, and we find it well worth the attention not only of engravers but of photographers and the users of cuts of mechanical subjects. Taken as a whole, it is a powerful and effective plea for the wood engraver, and although the catalogue is nominally devoted to the ruling machine it presents the peculiar advantages of the wood cut in an unusually frank and convincing manner.

In these days where fashion and cheapness control, the half-tone and the pen drawing have carried everything before them. While the half-tone produces most beautiful results it can do so only under certain fixed and limited conditions. It must have a fine, smooth paper, usually "coated," it must have fine press work, special ink, and the original block must be used because a first-class electrotype seems to be out of the question. Lacking these necessities, the half-tone may easily become a smudge of black. The wood cut, on the other hand, yields perfect electrotypes and gives clean, sharp, brilliant impressions on almost any kind of paper, and with the cheapest of inks and poorest of press work. Another feature of the half-tone which limits its usefulness is the fact that it requires perfect copy. It is not infrequently the case that the retouching of the photograph costs as much as the plate itself. For the best results the photograph must be as nearly perfect as possible, and its cost adds not a little to that of the engraving. Retouching of the photograph is essentially difficult. To make an effective picture from a poor, weak photograph it is necessary to re-draw it entirely, often many times more costly than the plate.

To show the relative merits of half-tones as compared with the wood cut, when both are at their best, two cuts of one machine are given. They are made from the same photograph. In each case orders were given to do as fine work as possible, regardless of cost. In comparing the two cuts it is at once seen that the wood is bright, full of vigor, with details brought out much more clearly than in the half-tone. In the broad, general effect there is little to choose between the two. The contrasted engravings are a convincing argument in favor of wood. A still further proof is found in the fifty or more wood cuts scattered through the pages. With the exception of the half-tone mentioned and another showing a ruled background, all the engravings are on wood, and are printed from electrotypes.

The cuts have been drawn from a great variety of sources. Chicago, Philadelphia, New York, Hartford and Boston engravers are represented. A few of the blocks are old, some are quite new, but all have been in actual service. They strikingly illustrate the wide range of uses for which the wood cut is eminently suited.

The object of the catalogue is to show the work of the ruling machine, and demonstrate its capabilities. The scope of work seems to be almost unlimited. Some of the cuts of complicated machines were executed almost entirely on the machine. The "wave roll," a new feature, has made it easy to produce many effects usually done by the geometric lathe. From the character of some of the specimens we judge the machine useful to the process worker, since it is capable of performing much of the retouching on the plate which is now done by hand. It can also tint skies, backgrounds, and water, with straight or varied lines, much better and more cheaply than by hand.

The catalogue will be found interesting to all engravers, process workers and photographers. A copy can be obtained from Jno. Royle & Sons, Paterson, N. J., for the asking.

THE new Imperial Meter introduced by G. Gennert, of New York, is the simplest and most convenient meter on the actinometer plan we have yet seen. In the form of a neat little vest-pocket book, it opens up and the actinometer time is obtained on a piece of sensitive paper, and one movement of the single slide gives the correct time for exposure with any stop. It is applicable to all lenses, the U. S. as well as the F. numbers being shown on the meter.

The price of the Imperial Meter, complete with sensitive paper and a speed card of all the popular plates and films, is only fifty cents. We have used one under varied conditions and can speak for its accuracy and convenience.

IF you are looking for a shutter that is silent you cannot do better than get into communication with the Kalamazoo Shutter Co., of Kalamazoo, Mich, manufacturers of Root's Silento Shutter.

We recently had an opportunity of working one of their latest shutters. It is exceedingly quick and easy in its action and absolutely noiseless and possesses all the good points claimed for it.

NEGATIVES WANTED.—The Bausch & Lomb Optical Company announce that they are desirous of securing views of famous places in the United States and Canada and will pay $3.00 each for negatives made with any of their anastigmat lenses, that is, with the Bausch & Lomb-Zeiss Unar, Tessar, Protar IIa, IV, V, VII, VIIa, and the Bausch & Lomb Plastigmat.

The views may be of famous buildings, churches, statues, monuments, of well-known objects in nature, as the Grand Canon of Arizona, Yosemite Valley, anything that is renowned in history, poem or story. This would naturally exclude subjects which, interesting and picturesque in themselves, have only a local value, as a library or government building in some city or town.

Interior views also will be accepted, but there must be some interest other than purely local connection with the place.

The negatives are to be no larger than 5x7 and no smaller than 3¼x3¼. Prints may be submitted to the Bausch & Lomb Optical Company, Rochester, N. Y., at any time, the sooner the better. They reserve the right to accept or reject any or all prints submitted and in the event of the purchase of negatives to use them in any way they choose for purposes of general publicity.

Prints should be plainly marked upon the back with full data, including subject of picture, name of lens, size, stop, time of exposure, name and address of sender.

FROM the Hyatt Supply Co., of St. Louis, Mo., we have just received a copy of their new catalogue No. 17. For general completeness and typographical display we have not seen its equal. The illustrations are especially good and in this respect take the catalogue out of the beaten track.

Two hundred pages cover the field of photographic supplies in a very thorough manner and are arranged with every regard for the photographer's convenience.

No expense has been spared in the production, so that it cannot be sent out indiscriminately, but a request accompanied by five two-cent stamps to cover the cost of forwarding will secure a copy. It is well worth writing for.

THE Wollensak Optical Co., of Rochester, N. Y., so long known as manufacturers of high-grade shutters and lenses, have just issued an interesting and handsome catalogue giving particulars and prices of their shutters and lenses.

The excellent reproductions of some of the work made with their lenses add very much to the attractiveness of the catalogue. Professional photographers who are thinking of a new lens will do well to investigate the Royal Portrait Lens at F. 3.8 and Series A Lens at F. 5. They are being used in some of the best studios with highly satisfactory results. The catalogue describes them and can be obtained for the asking.

WE are in receipt of an advance circular announcing the *American Annual* for 1907—the twenty-second consecutive number, and said to be better than ever.

There are to be over three hundred illustrations, including twenty-four full-page color illustrations. Geo. Murphy, Inc., New York, are the exclusive selling agents.

"HAUFF on Modern Deveopers" is the title of a new instruction book issued by G. Gennert, the American agent for the J. Hauff Co.'s specialties. It is a useful little book of some eighty pages, giving much general information on Exposure, Development, the Dry Plate, Stand or Tank Development, besides many new formulæ for working metol, ortol, pyrol and the other well-known developers manufactured by this firm. Copies will be mailed on request by G. Gennert, New York and Chicago.

"THE Year Book of Photography," the forty-seventh volume of this interesting and practical photographic annual, is just received from the American agent, G. Gennert, New York, and as usual is full of much practical matter, including full and instructive papers on the Bromide Process, Gaslight Papers, the Platinotype Process, the new Oil Process and Ozotype.

The price of the book in paper covers is fifty cents, and we understand that the supply is limited. If you wish to secure a copy send in your order now. The book is a mine of useful information and worth many times its price.

THE Mirmont Photo Paper Co. had just gotten their new factory in San Francisco completed when the earthquake came and destroyed the entire plant. They have since constructed one of the largest photographic paper plants in the country—this time in New York—and within the next few weeks will place on the market a complete line of platinum, gelatine p. o. p., developing and bromide papers.

EDITOR'S TABLE

"NATURAL-COLOR PHOTOGRAPHY," by Dr. E. Konig. Translated from the German, with additions, original tests, and experiments, by E. J. Wall. Color plates and diagrams. Cloth, $1.00. Tennant and Ward, New York.

Photography in natural colors is a magic phrase and means many different things. Hundreds of methods and processes have been introduced, patented and exploited under this title, all claiming to give photographs in the colors of nature (more or less). As those at all interested in the subject know, very few of the methods thus far published are sufficiently simple or practical to be worth experimenting with. During the last few years, however, other methods have been pushed towards perfection, so that now we have a process which will bring results with a reasonable amount of care. Then there are many other methods which are of great interest and have possible commercial applications. Thus, at the present time, we have in London and Berlin portrait studios devoted exclusively to the making of portraits in colors direct from life. Dr. Konig's book, of which the volume here noticed is an English translation with much original matter, has had a wide circulation in Europe.

Its introduction to English readers by Mr. E. J. Wall is a matter for congratulation. Mr. Wall being perhaps the best fitted of present-day workers to revise Konig's work and put it into practical shape for the English reader. The volume gives practical working instructions sufficient to enable him to take up any of the practical processes on colored photography; and, second, it gives the theorist and experimenter the comprehensive knowledge of what has been achieved in the near past—knowledge on which further research may be based.

This first English edition is translated from the second and materially cut edition of the German work and is revised by Dr. Konig as well as the translator. It is, therefore, complete and in touch with the very latest developments up to the date of publication. We commend it to our readers with every confidence.

WE are glad to see that Mr. W. S. Lively's efforts towards raising the photographer to a higher standard are being appreciated, as shown by the letter of thanks for his services from the officers of the Indiana Association, which we print.

MR. W. S. LIVELY, McMinnville, Tenn.

DEAR MR. LIVELY: We, the undersigned, officers of the Indiana Association of Photographers, desire to express our appreciation for services rendered by you in superintending the classes of instruction and directing the educational features of our twelfth annual convention, held at Winona Lake, in our Daguerre Memorial Institute, July 9th to 12th, inclusive, as an evidence of which the Association has unanimously elected you to the office of Sueprintendent of Classes for our next annual convention of 1907.

We are much pleased, indeed, with the work you have done, and feel that the success of the convention, in a large measure, has been due to your efforts.

Thanking you for your valuable assistance and trusting that you will again favor us next year, we are,

Cordially and fraternally yours,

J. O. CAMMACK, First Vice-President.
H. E. KOCH, Second Vice-President.
W. E. VILMER, Secretary.
GEO. W. SMITH, Treasurer.
G. E. HOUSER, President.

WE also congratulate Mr. Lively on having secured a blue ribbon of the Salon at the National Convention, with his fine study which is reproduced in this issue.

IN our next issue we will print an interesting and practical paper on the preparation of "Gaslight Emulsions for Plates and Paper," by A. J. Jarman. The great popularity of papers of the Velox class makes it a matter of interest to the professional photographer to know how gaslight papers and plates are made.

THE Third American Photographic Salon will be held during 1906 and 1907 in New York, Philadelphia, Chicago, Pittsburg, Minneapolis, San Francisco, Providence and Toronto. All pictures are to go before a selection committee of twenty-three photographers, after which six painters will make a further selection from the thousand frames or so picked out by the photographic committee. The painters are John W. Alexander, Joseph R. Woodwell, Martin Borgord, H. L. Hildebrandt, George Sotter, and J. E. Laboureur. The selection committee is composed as follows: Curtis Bell (chairman), Walter Marshall Clute, Sara Holm, Adolph Petzold, Virginia Prall, Helen P. Gatch, William H. Phillips, John Chislett, J. P. Hodgins, Thomas A. Morgan, Oscar Maurer, Wendell G. Corthell, J. H. Field, James E. Underhill, Clarence M. Rodgers, Nellie Coutant, Carl Rau, Louis Fleckenstein, William H. Zerbe, Jr., Philip B. Warren, W. Parrish, H. W. Minns, and R. L. Sleeth, Jr. A list of local juries and all further particulars can be had from R L. Sleeth, Jr., 1120 Wood Street, Wilkinsburg, Pa.

FROM the Artura Photo Paper Co. we have just received a copy of the great song hit of the Convention—the wonderfully popular "We're Here Because We're Here," arranged for solo and quartet by Carl E. Ackerman and dedicated to President-elect Van DeVenter. We understand that arrangements for bands and orchestras are now in preparation.

If anyone who attended the Convention has by any possible chance forgotten the words or music of this masterpiece the Artura Paper Co., of Columbus, Ohio, will doubtless be glad to supply a copy.

THE second annual photographic exhibition of the Photographic Section of the Academy of Science and Art of Pittsburg will be held in this city during November, 1906. Pictures will be accepted in two classes: Pictorial and General. All work entered for the Pictorial Class will be judged by a jury of painters. The General Class will comprise examples of work shown for its technical qualities; photographs by artificial light, photography as applied to industrial and educational purposes, historical record work, etc.

Prospectus and entry form can be had on application to the Secretary. This exhibition will be open to all photographic workers.

J. M. CONNER, *Secretary,*
Shetland and Finney Aves., Pittsburg, Pa.

THE ninth annual convention of the Photographers' Association of Texas was held at Austin, September 4, 5 and 6. The meetings were well attended and the convention was a decided success. The prize-winners were:

Genre Class—First: J. M. Brodie, Comanche. The Fell Trophy was awarded to L. T. Powell, San Antonio.

Class A—First, gold medal: M. E. Sanders, Waco. *Class B*—First, gold medal: F. M. Boyd, Gainesville. *Class C*—First, gold medal: J. M. Brodie, Comanche. *View Class*—First, gold medal, R. T. Jones, Denton. The prize for the neatest display went to J. B. Dixon, Dalhart, who also secured a silver medal in Class C.

The following officers were elected for the ensuing year: President, F. Voorhees, Dallas; First Vice-President, M. E. Sanders; Second Vice-President, Miss Mabel Gray, Denton; Secretary, A. L. Blanchard, Hillsboro; Treasurer, Bert Williams, Denton. The 1907 meeting will be held in Dallas.

MESSRS. TENNANT AND WARD, 287 Fourth Avenue, New York, advise us that the following new editions and new books are now ready. Some of these have been out of print and unobtainable for months and their reappearance will be welcomed. Students who have attempted to procure copies have found this impossible.

Color-Correct Photography. By T. Thorne Baker. The latest and in many ways the most practical handbook on orthochromatic photography. Price, 50 cents.

The Photographic Picture Post-Card. By Ward and Wall. The first edition of this, the only book on the subject, was exhausted a few days after publication. It gives all known methods of making photographic post-cards, and also deals with this popular hobby from the industrial side. Price, 50 cents.

Magnesium Light Photography. By F. J. Mortimer. This is at present the only book available which deals with flashlight photography. It gives actual methods of a practical worker. with many diagrams and illustrations, Price, 50 cents.

Townsend's *Chemistry for Photographers* has now reached its fifth edition and may fairly be regarded as a standard text-book on photographic chemicals. The new edition is considerably revised and enlarged. Price, 50 cents.

Photo Enamels. From the French of Rene de Heliecourt. Practical methods of making photographic enamels, often spoken of as "ceramics," with working formulæ and instructions. Price, $1.25.

Figures, Facts and Formulae. A reference book of classified usefulness fully described by this title. Price, 50 cents.

Finishing the Negative. A cyclopedic treatise on all the processes between fixing the negative and printing. Price, $1.25.

Elementary Telephotography. By E. Marriage. The standard work on this subject. Price, $1.75.

With the above note comes a new edition of Messrs. Tennant and Ward's *Classified List of Books on Photography,* a very handy list, giving the titles of all the books in print August, 1906, with descriptive matter and prices.

THE Birmingham (England) Photographic Society hold their twenty-second annual exhibition February 23 to March 2, 1907, and with a view to making it international in character are inviting photographers from all countries to send in work.

There will be three open classes: (1) Pictures, any size or subject; (2) Lantern slides, and (3) Scientific photographs. The awards will be silver and bronze medals in each class. The decision of the judges to be final.

Pictures must reach Birmingham not later than February 1, and should be addressed to Lewis Lloyd, Norwich Union Chambers, Congreve Street, Birmingham, England, who will be glad to furnish entry forms and any further particulars.

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P. A. of A. SALON

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WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. NOVEMBER, 1906. No. 599

A NATIONAL ACADEMY.

BY THE EDITOR.

ALMOST forty years ago we were present and assisted at the birth of the National Photographic Association of the United States—the forerunner of the Photographers' Association of America. We printed a full report of the proceedings of the first convention, held in Boston in 1869. Every important event and many schemes, promising and otherwise, have been written up in these pages and for over forty years this magazine has spent time, energy and money to promote the best interests of photography and professional photographers. There are times, however, when it may be necessary to warn the photographer against taking a step that would undo much of the good work already accomplished for the advancement of the profession.

The question of a National Academy of Photography is being forced to the front. The Photographers' Association of America at its last convention passed a resolution empowering its President to appoint a committee to consider the creation of such an institution and to draw up a working plan. Knowing President Hearn's enthusiasm in the matter we anticipate prompt action.

Such an Academy is a matter of vital concern to the American photographer and to this magazine as affecting the status of its readers everywhere. What the photographer wants and will have is for the photographer to say. What this magazine has to say for or against a national academy is, obviously, said in the best interests of the craft, which we are all desirous of advancing in the public esteem.

A magazine in touch with its readers should reflect their opinions in its pages, and before committing ourselves to any expression of opinion in so important a matter we formulated four questions on the advisability of such an academy. These queries were submitted to one hundred of the most representative men in the craft throughout the country. The questions and replies will be found on another page of this issue. Almost all the replies received were favorable to the idea of some such institution but the significant fact should not be overlooked that amongst the replies received we do not find a word from such men as Strauss, Stein, Steichen, MacDonald, Hollinger, Garo, Parkinson or Pierce. Yielding to none in our admiration and appreciation of the work of the men whose replies we print, we contend that an attempt to found a National Academy without the hearty support and co-operation of workers such as those named—

who are admittedly at the head and front of the craft—is doomed to failure.

An Academy can only be an academy in fact and carry weight and authority so long as the great body on the outside has confidence in the few who are to be elected to the distinction. The possibility that there may be better men outside the academy than are in it will defeat entirely the object in view. Water will only rise to its own level and an academy starting with the best men on the outside would never succeed in getting them in later. It would be a greater distinction to be on the outside.

Another point of pertinent interest in any movement of this sort is the tendency during the last few years towards union and co-operation, the division of state associations into sections and subdivisions, the bringing together into closer union the men of each section for mutual help and support on a basis of equality. An academy that would select men from the section organizations and set them apart is at once going to create class distinction and destroy the feeling of equality which is being built up.

A National Academy implies a body of the best photographers in the country. A photographer is "one skilled in taking photographs."

Are all the people "skilled in taking photographs" members of the Photographers' Association of America? Are all photographers included in the ranks of professional photography? In the public mind photography stands for something more than the making of portraits under a skylight and any effort to make a National Academy out of the membership of the Photographers' Association of America—even if it did contain every professional photographer in the country—is bound to defeat the object in view.

Perhaps the title under which the scheme is at present known is unfortunate and somewhat misleading. This is a detail that can be corrected at a later date, but will it not create a prejudicial impression which may be difficult to remove later?

We are emphatically in favor of any scheme that will advance the professional photographer in the public estimation and will do all in our power in the future, as in the past to forward the best interests of professional photography. But we do not think that the time has come when a resolution "carried" by less than three hundred professional photographers can bring into existence a National Academy of Photography which "will settle with the voice of authority, the standard of art in photography" or that will add to the dignity or standing of the men, who by their work and reputation, are entitled to become members of such an academy.

There remains yet much to be done by the photographer, individually and collectively, through his existing associations in raising the average of photography before we can hope for a foundation broad and deep enough on which to build a National Academy of Photography worthy of the name.

THE NATIONAL ACADEMY OF PHOTOGRAPHY.

A LETTER FROM CHARLES W. HEARN.

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE.

DEAR SIR: I have yours of recent date reminding me of my promise to write in relation to the National Academy of Photography.

I am taking it for granted that your readers are conversant with the proceedings at the National Convention which led up to this matter. It may not, however, be amiss to state that my engagement of Mr. Cummings to present this

matter to our members was not any hastily conceived idea but was the outcome of several years rather close connection, in one way or another with various association affairs. The conviction was forced upon me that an academy was the only solution to the many perplexing questions that beset us on every hand.

The remedial advantages of such would be of incalcuable value to all association men, and equally so, to those who never attend conventions but who are possessed with the highest ideals for the destiny of photography, and of a conscientious desire to advance in their work, and honestly merit the approbation of a discerning public.

The welfare of, and interest in our professional brotherhood, is peculiarly the result of our association life. It engenders a broad sympathy, a universal desire to aid each other. By the union of these masses in different parts of the country, at their local conventions, with occasional of their representative men at the National Association every year or so, any movement that would be taken up by the P. A. of A. and then receive the sanction of these men, as did this National Academy idea, can always be depended upon as being eventually approved by all associations. To be approved and supported by them means practically the solid support of photographers everywhere.

It is of course well known by frequenters of photographic conventions that there has always been much trouble experienced in our not having any authoritative standard for the judgment of the exhibits, and he who sends pictures which are turned down by one set of judges may fare much better with a different jury. So well is this understood by some of our wily exhibitors, that they frequently make plays to the known taste of certain men who they think are likely to be selected as jurors, and I have known them to hit it fairly correctly on several occasions.

The judgment of pictures by "eyesight" rather than by careful study, has caused the persistence of working so many points for that or the other, or by the percentage plan, which is, after all, valueless as regards real merit acceptable everywhere, being good only for that one exhibition. We need a definite and generally accepted standard, and this can only be given by an Academy, and with the status of the photographic art defined.

Our National and State Conventions may be compared to a helpless ship at sea drifting first one way and then another. Year after year passes with their carrying large or small numbers of photographers on their annual educational and vacation trips, with no idea of what port they are bound for. They know not whether it should be Port Pictorial or Port Technical; Port Artist Painter or Port Fuzzy; Port Freak; Port Sharp or Port Detail. They look for their big ship, the one which always has the crowd, and where their "big" brothers are likely to be, to see what port she is making for, and find the same element of uncertainty prevailing there as elsewhere. They look to their various leaders for inspiration, with little better success, for they are usually either vacillating or weakly disagreeing as to Port Artist Painter, Port Technique and the next moment urging Port Artisto, Port Angelo, etc. The usual radical or two are there but as they talk loud, have piratical hats, wear women's ribbons for neck ties and have strange ideas, they are afraid to follow their advice, not being altogether sure of their sanity. They hear them advocating Port Very Low Tone, which they think is down on the muddy banks of the Mississippi and deride Port High which many of the boys like, as it is always bright and sunny and everything can be seen so distinctly.

On the sterns of these ships are no names but letters such as P. A. N. E.; P. P. S. of N. Y.; P. A. of P.; O. and M. P. A. etc., while the letters P. A. of A. is on that of the largest of all. At their vari-

ous top masts may be seen their flags and painted thereon 41 Gold, Silver and Bronze medals,—$5 $8, $10, $15 and $20 per dozen. General Class Certificates,—80 per cent., Diamond Badges, etc., while it is upon their steamer alone do we see any names, of which the most prominent are Goerz Cup, Slater Trophy, Morrison Prize, Luxo Prize, etc. There are fifteen or twenty of these vessels, and they carry in the aggregate a big mass of people, who while seemingly the equal of anybody on God's footstool, are also amongst the most peculiarly unfortunate known to exist.

These men and women, for they represent both classes, are the devotees of one of the most beautiful and useful arts known to man. They are a class possessed of much ideality and with a keen appreciation of the beautiful, united with a strong desire to obtain both in their work and to excel in the practice in their vocation, but they have no knowledge of where to go for much needed information.

They seem and must be patient, since year after year, they take their little cruise to nowhere, only to drift about as before, with the same lack of decision, seemingly unconscious of their plight but doubtless by now thinking it the proper thing to do.

This state of affairs, a lack of appreciation of a definite aim in their work, of how to ever attain it, or even see its desirability, is what renders the plight really pitiful in contrast to the decisive steps taken by followers of other arts. Among the photographers are many who wish to set it right, who are tired and disgusted with the state in which we are in, not knowing which way to turn or whom to look to for guidance. These are broad minded enough to be put in the vanguard to tell us what is advisable—even his present business competitor, so long as the cause of photography as an art is defined and its educational features made possible of advancement.

Nothing jars upon some so much as not knowing where they are, others will lay down and go to sleep in the middle of the most exasperating conditions not caring a rap and content to let things drift as they are.

The hearty applause with which all references to the Academy were greeted at the convention, shows it to be most popular with the representative men from all over the States and Canada. This is as it should have been, so that somehow or other, there may be evolved a better understanding of what the photographic art really consists, what it means, its destiny and where it belongs.

We need an understanding whether this art should be patterned after that of the painters and whether the occasional claim of some of them, that we can never be big like them, is peradventure, eternally correct. Whether the limitations of the camera, or its domination is a disadvantage or the contrary.

We want to know if a great deal of the claim of some artists that we are everlastingly damned from ever laying a worthy claim to art, since we are photographers is not all "tommy rot."

The standard of photography must be defined, its position determined, its educational features promulgated. This the Photographers' Association of America has determined must be done, and its president calls upon all photographers, whether they be members of this or other associations, or not, to give the movement that great power and impetus which this loyal support would accomplish. Even if the reader is not an association man, as long as he is interested in uplifting photography, and cherishes the affection he must have for it if engaged in its pursuit, your moral support is of immense value to the ultimate shaping of public opinion to its favorable recognition. Whoever may be the Fellows of the Academy finally selected let us all be so broad as not to think that because we do not approve of some possible member that he should not be there. While this

may be our opinion it may not be that of others.

The conditions above cited, inclusive of others not mentioned, and creative of a chaos under which we have always labored, has not continued to this day, without several efforts in the past having been made by some of our most earnest men to try and change things for the better. In fact it is always coming up whenever a few of our earnest men get together and the ideals of the art become a subject of discussion. The Academy idea most probable ante-dates the photographic experience of many of our brightest young men of to-day.

It nearly became an accomplished fact as the result of a meeting of some forty or fifty of our leading men at Cleron in 1896 or 1897. What killed the idea at that time, was, I believe, the feeling engendered by some personal illusions among those present which although no sooner uttered than repented of, yet the mischief was done. This is, as I understand it. The exact nature of the remarks and the personalities I have studiously avoided ascertaining. There have also been smaller meetings of more recent date.

Experience teaches us much and is more valuable than we think. Sometimes the greatest good results from the former failures. The seriously obstructive difficulties are more wisely handled from the non-success of our previous efforts, even if our knowledge of the same is only hearsay. The earnest, persistent and determined desire that spells success in the end, is obtained as much on account of these difficulties as by the urgent necessity that impels us to undertake it.

It may possibly appear strange to some, but it is on account of the difficulties of agreement in the past, the present and that in the future, that I see our strongest hope of success of the present movement.

The magnitude and daring of the task before us is none the less appreciated, because the matter must of necessity be aggressively handled. It is certain that our committee entrusted with the handling of this matter will in no way be actuated by any other feeling than that of sincere regret, that the honorable body of men constituting the National Academy of Design and Society of American Artists, did not recognize our just bid for an appreciation of the "infant art of photography."

This decision of a most representative body of professional photographers, who in their membership embrace our whole country to create this Academy and give to it the moral support of its twenty-six years of honorable existence, is not done in any unworthy spirit, but because we honestly think that it is right, that it is necessary, that it is pressing.

This proposed academy must under no circumstance be construed as a personal matter of the President of the P. A. of A.; it is not. It is that of the Association which he represents, brought up by him on the first day in his capacity as their servant selected to look after their welfare. It was presented to the convention as a matter of paramount interest overtopping in importance all other questions. The acceptance of the committee's report in its favor on the third day of the convention. It is now an association matter by voice of the convention, whose orders are to be obeyed.

The spirit and intent of the resolution —and of the will of the convention, is that this committee to be appointed to handle the project, must make the Academy an accomplished fact, and this will be done if the committee are equally minded of their instructions.

That we have in our ranks and in professional portraiture, forceful, brainy, alert, broad and just men, big enough and strong enough to handle this assignment goes without saying. That we will find them so is our wish.

As there are so many things to be considered, to make this Academy strictly national in its character, broad in its scope so as to include all classes whose

efforts have made and will make the history of our art in this country, we must none of us expect its final accomplishment by the incorporation of its charter members in too short a time.

Let us all unite in saying "God speed the time when a National Academy of Photography is an accomplished fact."

Sincerely yours,

CHARLES WESLEY HEARN,

President of the Photographers' Association of America.

A PROFESSIONAL SYMPOSIUM: THE NATIONAL ACADEMY OF PHOTOGRAPHY.

THE question of the formation of a National Academy of Photography is a matter of great importance to the professional photographer. To meet with the success necessary to its establishment on a firm and secure basis it must have the hearty approval and co-operation of all classes of photographers.

With a view of getting the opinion of the craft in general we wrote to one hundred representative photographers throughout the country and below we print their replies in the order received.

The questions were

1. Do you think the formation of a National Academy of Photography desirable?
2. Do you think that such an Academy would carry weight and authority, or help to settle finally the true standard of art in photography?
3. Do you think that a National Academy would bring into closer union the best photographers of the country, or would it create a class distinction possibly prejudicial to the best interests of professional photographers?
4. Would you give your personal interest to the organization of uch an Academy?

Geo. Graham Holloway, a Past President of the P. A. of A. and one of the directors of the Daguerre Memorial Institute, writes:

Replying to yours of recent date, regarding the proposed National Academy of Photography, beg to say that I do *not favor* the plan as I now understand it.

I have one suggestion to offer, to those who are desirous of aiding in the advance of progressive photography.

Let those who wish to see photography reach a high plane, turn their attention to the Daguerre Memorial Institute, and aid it in *every manner*—for it is endeavoring to do *all* and *more* than the proposed Academy.

Why start new trouble when we already have troubles of our own? We welcome all into membership in the Daguerre Memorial Institute, and when one has a portrait accepted, in said institute (permanently), they will have gained honors higher, than any Academy can bestow upon them.

In my opinion there is no urgent need for such a proposed National Academy.

Alfred Holden, Philadelphia, says yes to the first, second and fourth questions and to the first half of the third question, but cannot say whether class prejudices would be formed until he knows more of the proposed constitutional elements.

Louis F. Bachrach, Worcester, Mass., writes:

I think a National Academy would be a great thing. Something of that sort and sure standard is necessary to separate the two classes of photographers that will be created under such a condition, and to give some tangible goal for all to work for. That goal would be the object in view for those not in it. I would be glad to help in any way.

Will Armstrong Boston, Mass., one of the founders of the Brush and Lens Club of Boston, writes No to questions 1, 2 and 4, and to question 3 he writes: "I wish a class distinction could be made," and goes on to say, "I am tired of listening to and reading the egotistical ideas of such successful business men as are connected with these academies and associations. Why don't you publish some sensible ideas from the minds of the photographers who own real estate?"

Curtis Bell, New York, founder of the First American Salon and President of the American Federation of Photographic Societies, is in hearty agreement with the 1st, 3rd and 4th questions. Replying to the second question, he does not think that the Academy would settle

finally the true standard of art in photography unless the amateur photographers are included.

Walter A. Gray, Memphis, Tenn., a well-known photographer of the South, who has hitherto taken no part in association matters, writes:

I have your favor under date of September 24 and have carefully noted what you say therein. I have also read Mr. Cummings' address as published in the September number of Wilson's Magazine, and think I have a fair idea of the aims and purposes of the association that is proposed to be formed, all of which have my hearty approval, and I take pleasure in assuring you that I will be greatly pleased to aid and assist in any way in my power the formation and success of such an intitution.

Since I have been in this business I have not paid very much attention to associations and the meetings of same, and have never attended a meeting of this kind at all, preferring to work out my own salvation after my own ideas and along my own lines. Whether this has been an advantage or not is a question that is hard to answer, but one thing is sure my work and plans are original and any success I have had is the result of my own efforts.

I believe now that my reputation and standing is such that would put me in a class with the leading men of the profession in the country, and it is my desire now to get in closer touch with them, whereby in exchanging ideas my own work may be improved, and the association which you are contemplating forming will make, I trust, this possibility a reality. Hence, my hearty pledge of support.

W. K. Van DeGrift, of Toledo, Ohio, answers as follows:

1. Not only desirable but in my opinion a necessity.

2. I believe that such an Academy is bound to carry weight and authority and would help in a great measure to settle finally the true standard of art in photography.

3. To the first part of this question I should say yes. To the second I would say that I believe such an Academy *will* create class distinction, but *not* prejudicial to the best interests of the professional. Anything—it matters not what—that has a tendency to elevate our art, clothe it with greater dignity will ultimately better the profession as a whole.

4. Yes. I should be pleased to give my personal interest to the organiaztion of such an Academy.

Geo. E. Tingley, Mystic, Conn., who has carried off so many distinctions for his artistic landscape work, replies:

1. Yes.

2. It certainly could "carry weight and authority if wisely managed.

3. A National Academy should be a goal, and every photographer should seek it. If worthy he should be received with open arms. Failure to enter could hurt but the individual—never the Academy.

4. Yes.

The life of an Academy would depend upon equal rights to all, privileges to none.

S. W. Stout, Paxton, Ill., President of the Illinois Association, replies yes to all questions, and goes on to say:

I quite distinctly remember this topic being discussed and some comments made on it, at a meeting held at the headquarters of the State Associations at the recent Niagara Convention. And while not having considered this proposed Academy from its different viewpoints, in as studious and serious a manner as one should do, to have his opinions carry much weight with them, I will say that the formation of such an Academy, appeals very strongly, as a factor in measuring the Standard of Art in Photography, nor can I see wherein it could possibly be a factor in creating class distinction, presuming as a matter of fact, that its membership would be acquired by the rating method, that is requiring every applicant for membership to pass a high standard of rating, of well in the 90's out of the possible 100 per cent. This instead of creating class distinction, will put every photographer upon an even basis. And I sincerely hope that there are few, if any of our leading professional photographers, who are not broad enough, if in seeking the honor of membership in this proposed Academy, they should fail on one or more occasions to obtain the required rating, but that would feel the necessity of renewed efforts on their part, to bring their work to a higher Art Standard and would feel that they were being doubly profited thereby, when in the end success crowned their efforts. I also believe that it would be a mighty factor for the best interests of our National as well as our State Associations, to have three judges, acting in the capacity of the official judges of the Academy to also be the judges rating all the exhibits in the National, as well as the State, Conventions thereby establishing a standard by which the relative merit of all work could be judged regardless of the section of the country in which the different conventions are held and at the same time any exhibitor who has received a rating of the required

per cent., as fixed by the Academy, would be eligible to membership should he possess the necessary moral qualifications and make application for it.

E. E. Seavy, New Castle, Pa., Secretary of the P. A. of A., replies to No. 1, "I do;" to No. 2,

It will if properly conducted. No. 3. It would bring the better photographers together in a closer union and a better understanding of the profession as well as each other. No. 4. I will.

W. G. C. Kimball, of Concord, N. H., writes:

Answering No. 1. Surely just as much as painting or sculpture. To No. 2. Probably in the end it could be considered a true and final standard, but there would be stormy times in regard to unhung or skied pictures, especially at first. To No. 3. If sincerely carried out, in competent hands it must be of great advantage to the progressive studio and workers. To No. 4. Yes, as much as consistent.

W. H. Potter, Indianapolis, President of the Ind. Photographers' Association and a Past President of the P. A. of A., writes:

No. 1. Yes, most certainly. No. 2. Yes, provided, however, that it be founded on correct original principles and official managed and directed in accordance with true standards of art and to the just, true and equitable recognition of personal and professional merit No. 3. Yes, to the first alternative; and no to the second. No. 4. This question is answered in the affirmative with foregoing.

Jno. H. Kemp, Scranton, Pa., replies at length and makes some useful suggestions. We print his remarks in full:

Your favor of September 24 in regard to establishing a National Academy of Photographers, as suggested by Mr. Cummings at the recent P. A. of A. annual meeting is at hand. In replying, the first answer that suggests itself to the questions submitted in your letter is, "That depends"—since the value of such an institution would rest wholly upon the men associated, the manner of their selection and their appreciation of the honor as shown in the subsequent policy adopted.

In my view, such a body should consist of not more than twenty-five representative men, twelve, perhaps, elected in the first instance, at a regular meeting of the P. A. of A. after general notice to the photographers throughout the United States, and thirteen elected at the next annual meeting under similar conditions; the body thereafter to be self perpetuating. It is, perhaps, superfluous to remark that the qualifications for membership should be moral, intellectual and *artistic* eminence, not photographic cleverness. This is the crux of the whole matter. Unless that subtle distinction which differentiates a thoroughly good photograph from a "picture" can be recognized and emphasized by a National Academy, such an authority were better uncreated.

"Will such an Academy carry weight or settle the art-status of photography?" Unquestionably, provided Art is the governing ideal and not social distinction. The highest office of such an Academy should be to establish a standard of artistic quality so just and so high as to command the respect and inspire the ambition of every photographer to attain the honor of membership.

I can see no reason why a National Academy organized and conducted as outlined above, should not bring the best photographers into much closer union than now exists, nor can I see that it will create class distinction prejudicial to the best interests of the professional worker. Its office should be to hold up an ideal for individual, not class endeavor.

Thanking you for the privilege of an expression of opinion on a subject of such interests to the fraternity.

A. T. Proctor, Huntington, W. Va., Second Vice-President-elect of the P. A. of A., welcomes the idea and writes:

Will say in reply to question No. 1, That I would be very glad to see a National Academy established.

No. 2. I think undoubtedly that it will carry great weight and will help to settle the true standard of Art in Photography. Whether or not the Painter's Artists of the country will agree that there is Art in Photography or not, that will remain a question.

No. 3. I think a National Academy will undoubtedly bring into closer union the best photographers of the country, as it will be as an Academy of Artists the best of its kind. Of course there will be lots of objections by those who would feel some doubt of being admitted.

No. 4. I would do all I could to help form such an Academy.

W. F. Van Loo, Toledo, Secretary of the Ohio-Michigan Association, is heartily in favor and makes a suggestion that Andrew Carnegie might be induced to come to the aid of photography. Mr. Van Loo replies to

No. 1. I would be heartily in favor of a National Academy where a standard might be set and proper recognition given. I believe

it would create a greater effort to produce art in our work and by bringing such pictures into prominence result in financial benefit to the photographer.

No. 2. The public do not judge their photographs from the art side—but are largely influenced by what others say, therefore the opinion from a National Academy would have its influence.

No. 3. Closer union ought to be the result.

No. 4. There are so many better fitted that I could only offer to assist.

Now for some suggestions. I attach hereto two extracts from a page in the Cosmopolitan:

The reading capacity of the American people has increased enormously in the last ten years.

The average intelligent American home today is taking *five* periodicals where ten years ago it took only *one*.

All this has been made possible by the aid of photography. The halt tone illustrations have created the demand and stimulated a desire to read; people hardly able to read take *illustrated* magazines, for pictures often tell the story. Carnegie is building libraries so people may read—can't he be induced to endow a photographic institution which would present to the world the art in photography?

J. H. Field, Berlin, Wis., well known for his pictorial work, writes:

I have not given the subject any thought to speak of. While I cannot see how it would help us fellows in the smaller towns any, still I would not wish to say anything against the proposition. As for question two, I do not think such an Academy would settle the "art in photography" problem. That would take some other body of artists or painters, and as long as they (the latter) will not admit such a case, what good would it do for the photographic Academy to affirm it.

W. N. Brenner, Cincinnati, O., a consistent supporter of State and National conventions, has to say:

No. 1. Yes; formed upon the right foundation and maintained properly I should think a great deal would eventually come from it.

No. 2. In time it should be *the* authority upon Photography—as to art it would depend entirely upon the policy pursued if all the principles of art should be demanded and considered by practical artists, together with legitimate Photography by Photographers a true standard could be arrived at.

No. 3. Yes. My understanding is this is meant to be an Academy for Professional Portrait Photographers and should surely attract the best and make others strive for the necessary degree of excellence and I do not see that class distinction could be made to injure the professional any more than the present Convention man is injured by the anti-Convention one.

No. 4. Yes—providing the Standard of excellence—constitution and by-laws controlling it and its members were in accord with my views regarding Photography and what it should be.

J. E. Giffin, of Wheeling, W. Va., replies:

That I can say as a whole *yes*.

I am in hearty sympathy with the movement of a "National Academy," as I believe it to be the very best step to be taken in the right direction, in bringing about the desired result. 'Tis true that in forming such an organization there will be some objections to overcome, but these objections will come principally from the middle man.

I believe that in short this will be the means of elevating Photography to its proper place and without injury to any.

I shall be glad to lend a helping hand to anything that will better our condition as Photographic Professionals.

W. F. Schrieber, of Dallas, Texas, makes a pertinent suggestion and answers the questions as follows:

First question: I believe that the formation of a National Academy of Photographers is desirable under certain conditions and restrictions, namely, that only thoroughly competent photographers and men of unquestioned integrity be admitted into the Association; the Association should be placed on a high plane; unreliable parties should not be admitted under any circumstances. An agreement should be reached fixing a fair and reasonable charge for high class work. This could be done by mutual agreement of the members without creating a monopoly or being in any sense in restraint of trade.

Second question: Yes, I believe that an Academy organized under above conditions will carry weight and help to settle finally the true standard of art and photography.

Third question: I believe that an Academy formed on the above basis will bring into closer union the best photographers of the country and serve to eliminate the undesirable class.

Fourth question: I will be glad to lend my assistance to any movement having for its object the organization of an Academy of Photographers on the lines above stated.

O. Pierre Havens, Jacksonville, Fla., replying to No. 1 writes:

Yes, under certain conditions quite possible if select.

To No. 2. Yes. I think it would carry much honor to those fortunate enough to be selected on their merit and not on their influence. It would have a tendency to stimulate the second rate man to become the head of his profession.

No. 3. Yes; and even should it create a distinction it would have a tendency to make the artist try for a round of the ladder towards the top, so that he could feel that he was at the head of his class.

No. 4. I would be glad to help if not too far off.

W. F. Core, Cincinnati, writes:

Yes, I think an Academy of true merit would be a great benefit to all first-class photographers that work at the business for the love that is in it and not for just the dollars and cents that they get out of it. And such men—no matter as to their standing or age—should have the same chance as the larger *fish* that have some one else to do the *fine work for them* and gathers the glory—from their hire—excuse my *expression.*

Now my answers to your questions are: 1. I believe if formed on lines of similar societies of artists it would be good.

2. It would certainly tend strongly in that direction.

3. Do not see how it could be prejudicial.

4. Should strive to be a high private in the rear rank.

J. Savannah, Victoria, B. C., President of the Pacific Northwest Association, was pressed for time and wrote briefly as follows:

Question No. 1: Yes.

Question No. 2: It will certainly carry weight, which is in itself of great importance.

Evolution applies to photography as in all other conditions, there will be a standard, but subject to change.

Question No. 3: I have no doubt dissention will arise, and further manifest itself among the recognized better class photographers. Notwithstanding this fact, I maintain it is our imperative duty to raise the general standard, before we can ever expect to attain the professional recognition to which we are entitled.

I concur with the movement and shall heartily support it.

A. L. Bowersox, Dayton, O., sees difficulties ahead. He replies:

If I were asked to give my views on a National Academy of Photography in America I should certainly feel the need of such a body. Photography needs, and needs it badly, an impetus to bring it nearer the pinnacle of fame!

If an Academy will accomplish anything, it will help to raise the profession, and what craftsmen need it more than do photographers?

But how are we going about it? It never can pass at a general gathering, for the few whom the honor would fall on, would be so outnumbered by those who could not hope to be recognized that it would not be possible to pass a resolution to that effect. There are many difficulties that suggest themselves to my mind, and I feel I could write a volume on the subject, but suffice it to say that I am heartily in favor of an Academy, if it can be established.

Knaffl Bros., Knoxville, Tenn., are very much interested judging by their answers:

No. 1. Most assuredly we do.

No. 2. Why not have an Academy the same as the art galleries in the larger cities and show the possibilities of our art and science. Let it be one of the educational features. Let the exhibit consist of portrait and lanscape work.

No. 3. It is a step in the right direction. The influence will be most refined. Cannot see how anyone can be prejudiced to anything instructive and elevating.

No. 4. Naturally, we would be interested in such a project and will do all in our power to help to organize an Academy of this kind.

Howard D. Beach, Buffalo, replies as follows:

1. I think a National Academy would be most desirable.

2. Such an Academy would carry weight and authority. You mention a settled standard of art. Think of Rembrandt and Whistler as being sole judges at an exhibition.

3. A National Academy would bring the members of same closer together. Those on the outside would aspire to becoming members, if it were properly conducted.

4. Yes.

J. Kennedy, Toronto, Ont., sends the following interesting replies and comment:

1. Yes, I think so.

2. I think such an Academy, properly handled by men of acknowledged ability and integrity, who had no axes to grind, and men entirely above suspicion (if such men could be induced to act), would go a long way towards settling *a* standard in photography. I would not care to say the *true* standard. as, no doubt, we shall always have more than one "standard" or "school" in photography, just as they have in painting. At pres-

ent we professionals have no standard by which to judge our work, though we show a strong leaning towards the amateur pictorial style at which we so lately scoffed.

3. It would, no doubt, bring the best photographers into closer union, and at the same time create a class distinction, not, however, prejudicial to the professional photographer who might be outside the Academy.

4. Yes.

My idea of this Academy would be to keep it very select, and admit only photographers whose work reached a high standard, they would then consider it a very high honor indeed to be elected to membership. And no doubt in time if the standard were maintained we might hope for recognition from even so august a body as the National Academy of Design.

D. D. Spellman Detroit, Mich., is brief and to the point:

Replying to your letter of September 24 would state that I have never felt enough interest in the National Academy idea to pay any attention to same, therefore do not feel that I am competent to answer the questions you request.

Milton Loryea, Spokane, Wash., says Yes to all four questions.

J. Will Kellmer, Hazleton, Pa., a Past President of the P. A. of A., is very much in favor of the idea and would help it all he could.

Homeier and Clark, Richmond, Va., want to know more about the academy idea before committing themselves, but they are heartily in favor of any movement by which the standard of professional photography could be elevated.

C. M. Hayes, of Detroit, a Past President of the P. A. of A., replies to:

No. 1. I do believe that the formation of a National Academy is a necessity.

No. 2. The true standard of art and photography is more easily settled in a group of photographers and artists such as the Academy would draw together than in almost any other way. If the Academy receives the right start in its nucleus it certainly will draw together those who are seeking for the best and greatest that their art can produce.

No. 3. While I presume that it will be productive of more or less class distinction yet who should benefit more than those outside of such a circle.

No. 4. Certainly.

Geo. M. Edmondson, Cleveland, another Past President of the P. A. of A., writes:

The success and power of a National Academy of Photographers will depend upon the kind of photographers enrolled, from its organizers, clear through. I will give my personal interest to an Academy properly organized by good photographers, for good photography.

H. Mishkin, Fifth Avenue, New York, thinks the idea superb. He replies:

I fully approve of the formation and existence of a National Academy of Photography. I believe that if such an Academy should be established and conducted properly it will certainly raise the photographic art to a very high standard. Photography will no longer remain a trade, but will be recognized an art, of which every photographer will feel proud. It will bring him into closer touch with all the best photographers of the country, and will protect his interest all over the Union. It will give him a standing in the world and an authority in his profession. The idea is superb.

E. B. Core, Fifth Avenue, New York, replying to question number one, writes:

Any meeting which brings photographers to know each other is desirable. No. 2. I confess my inability to pass on the subject. No. 3. It might do both; and to No. 4, Life is too short.

Mr. Core goes on to say: "After looking over my replies I am reminded of the chronic expression of Murphy of Tammany Hall, 'Nothing to say.'"

S. H. Lifshey, of Brooklyn, an enthusiastic State and National Conventioner, says:

No! to the first two questions and to No. 3, "It will not only create prejudice and class distinction, but it will disturb the harmony and good-fellowship now existing among the fraternity."

J. Edward Rosch, of S. Louis, replies to the questions as follows:

No. 1. I have thought so for some years. I think, however, that the Academy should be called the "National Academy of American Photographers."

No. 2. It can be made to carry weight and authority if the men who organize it are actuated by the highest ideals, and are willing to make laws that will be just—even to an enemy.

No. 3. If the laws are correct, it must necessarily bring into closer union the best men of our country, as well as help the ambitious man who may be less fortunate in point of

reputation, and who is willing and even anxious for an admission into its body.

No. 4. I will gladly give time and aid to the organization of such an undertaking.

Mr. Rosch further remarked:

That inasmuch as no Art Society in our country seems to be willing to recognize us as being a part of the art of our country, *as we see it,* and inasmuch as our art plays a most prominent and indisputable part in the "Arts and Sciences" not only of our country, but the world as well, I can see no reason why we should not organize a society that will suggest a standard of art for us quite irrespective of all other art societies and their standards.

The proposed Academy, if properly organized, will carry with it weight and authority, and can easily be made to settle for all time a standard of art in our profession.

This Academy not only can bring the best men into closer union, but, in my opinion, can become a great factor in uplifting and aiding the ambitious man who may be less fortunate in point of reputation and yet willing to work hard to obtain a membership in the Academy.

A plan of procedure necessary to the success of such an undertaking should incorporate laws that must be actuated by the highest ideals and with men to organize it who, at heart, are honorable and willing to be just, even to an enemy.

J. M. Bandtel, Milwaukee, Wis., Secretary of the Wisconsin Association and a former Secretary of the P. A. of A., a consistent worker for the advancement of the craft, replies at length and is well worth reading:

I will endeavor to answer your questions relative to the formation of a National Academy of Photography, according to my present way of looking at the question.

First. I *do* think that a National Academy of Photography is desirable, and I heartily favor the establishment of such an organization or branch of the Photographers' Association of America. I believe that membership in the National Academy should be composed of members of the Photographers' Association of America.

I do not think that membership in the Academy should be limited to any particular number, but should be open to those whose education, ability and character as photographic artists would make them worthy of membership.

Second. I believe that "such an Academy will carry weight and authority," provided everything relating thereto is conducted properly, honorably, and with only the highest ideals in view.

It is a well known fact, that the best institution on earth can be turned into a gigantic failure, when it is allowed to fall into the hands of politicians, self-seekers, and unprincipled persons who will demand favoritism for themselves or who would succumb to the temptations to show favoritism to others.

There will be rocks, in the way, no doubt; but another well known fact: Things that are worth while, are difficult of achievement, and require much thought and great care. Those who are called upon to work out the establishment of an Academy have no small task before them.

Third. Yes, I think that a National Academy "will bring into closer union, the best photographers of the country," and will create in the mind of the progressive and ambitious photographer, a desire to be among the best.

I have been trying for several years, to learn or think of some plan by which the photographer of artistic ability could be given recognition and added encouragement, and that would be more dignified than the awarding of prizes in cash, medals, or trophies, and that savors so much of the lottery.

I believe that the National Academy would be a great improvement.

As to the creation of "Class distinctions, possibly prejudicial to the best interests of the professional photographer," I do not think that the Academy would do this any more than the awarding of prizes, and such distinction as it *would* create, I do not think would be prejudicial to the *best interests.* I am inclined to agree with Mr. Cummings, as he expresses himself on this point.

Fourth. I should feel interesed in any movement that would make for progress and that would lead to higher ideals in our profession.

Referring to the later part of question No. 2, in my opinion, to "settle finally the true standard of art in photography," is a large proposition, and one that will admit of much argument.

I am tempted to ask: Has a true standard of art in painting, sculpture, architecture, etc., been finally settled upon? Has perfection been reached? Are not these arts still progressing; and are not their standards changing? I believe they are.

Photography is a youthful art, and making rapid progress, and the standard of ten years ago is not the standard of to-day. The standard of to-day, in ten more years will be left far behind.

Frank W. Medlar, Spencer, Iowa, Secretary of the P. A. of A., has been unusually busy and begged to be excused

from expressing an opinion for publication until he had time to think it over more carefully.

C. J. Van Deventer President-elect of the P. A. of A., was injured in a railroad accident and writes briefly as follows:

I have been laid up for the past two weeks with an injured leg, and am sorry I could not answer your communication in time for your next issue.

As to the National Academy of Photography, I am very much in favor of it or anything that will elevate our profession, and hope to see something come from the movement.

President Hearn's views on the subject will be found elsewhere in this issue.

Mr. W. I. Scandlin writes:

I can hardly reply to your questions, except in condensed form, and do not consider that at this time you desire more than a brief expression of opinion.

I am a firm believer in anything that will aid in establishing a standard in our profession. I am, therefore, heartily in accord with the idea of a National Academy when it can be brought about. Whether or not the time is now ripe is a question which I think can only be answered by a trial. It is quite likely that such a movement as this will not be consummated without more or less of jealousy and friction, but what of it? Has any important move for progress ever been made without these issues? The craft to-day is following the lead of those who are its recognized leaders, and it only remains to give to them official standing of some kind to carry out the Academy idea.

The fact that the question is being discussed is, of itself, one of the best indications that its need is being felt. I hope to see it worked out in the near future.

F. Dundas Todd, editor of *The Photo-Beacon,* replies in his characteristic and blunt fashion as follows:

No. 1. No. Academic honors are conferred by educational institutions upon men who work more for fame than for money. Primarily photography is a business proposition. The desired reward is dollars.

No. 2. No. You cannot measure a thing by itself, but must employ a different measuring rod. Photography cannot settle for itself its own status.

No. 3. This is a guessing contest. I have no data to theorize upon and therefore cannot arrive at any opinion.

No. 4. No.

In conclusion let me quote from a letter received by me to-day from a well known photographer. He says: "To a person possessed of humor the Academy scheme is interesting. I intermittenly laugh and cry. Sometimes it's funny and sometimes pathetic. Really, I think the photographers as a class may be trusted to handle the question. I don't think that all of them would be willing to make fools of themselves. Self-decoration will surely strike harder headed ones as silly."

Frank V. Chambers, editor of *The Camera,* takes the opposite view to Mr. Todd. He replies:

1. Yes, and I think the time is ripe for its formation.

2. Undoubtedly. If I interpret the idea properly, it is the purpose of having competent and able censors or juries—not necessarily ones directly interested—but men who can and will give honest and unbiased opinions. Photography is just as much art as art can be. Any old daub of a sign painter can smear paint upon canvas, but to get a conception or an atom of art—that's beyond him. Photography can do and does get a standard, yet if the average operator is simply in the mercenary mood, then the art standard is lacking, but the "Academy will carry weight" and help along the poorer element and raise to even a higher standard the good workers in our beautiful work.

3. Is it possible to bring the professional photographers into closer union than they are at present? The National Academy certainly is an assured fact at the start, as I have never met a more friendly spirit in a large gathering than I find at a National Convention. Of course, there will be a few malcontents—but they will be so few in number that they are not worth mentioning. I have found that the more successful a photographer becomes the more ready he is to assist his less fortunate brother. I believe this spirit will predominate in the National Academy.

4. I shall be only too glad to do so.

Lastly, we have the following interesting letter from Mr. *E. S. Curtis* of Seattle, than whom there is no one more competent to speak on this important question:

Generally speaking in regard to the Academy, you, perhaps, know that I was one of the few who spent several good hours in New York in discussing this subject. At that time there seemed to be as many ideas in regard to the Academy as there were men present, and the effort was to form an Academy, I believe, of twelve men; these twelve men to be more or less self-selected, as we eight men formed ourselves together as the immortal twelve. What I objected to then and would

still object to would be in twelve photographers of America getting together and calling it the Academy of American Photographers. To me it seemed to be as ridiculous as the old, old story of the man lifting himself by his boot straps. I, at that time, favored a larger number of men and more time to get them together, others insisted that there were not more than twelve good photographers in America, while I felt that there were at least fifty.

As you perhaps know, this meeting in New York of last winter finally closed with the resolution that the time was not yet ripe for the formation of an American Academy of Photographers.

Answering your direct questions:

No. 1. Yes.

No. 2. Yes, if rightly organized.

No. 3. There is no question but that it would create a class distinction and offend a very large number of the fair class workers, but at the same time I believe would raise the standard of professional photography

No. 4. You ask, "Would I give my personal interest to the organization of such an Academy?" If properly organized, and with not too limited a membership, I would be pleased to be of the body and would give it such help as I could.

Out of the hundred representative photographers written to, we have received replies from forty-five up to the time of going to press. The questions were mailed in ample time to have the replies received for publication in this issue. It is a matter of some significance that many of the best-known names in professional portraiture are conspicuous by their absence from these responses.

THE WELL-MADE PRINT.—STEFFENS.

BY SIDNEY ALLAN.

STEFFENS is one of the best-known and at the same time one of the least-known men in the profession—a quaint paradox! The fraternity is perfectly aware of the fact that there is in Chicago a genial gentleman who does A1 work and who has reached the top notch of excellence as far as photographic portraiture is concerned, and yet very few seem to be able to give any valuable and accurate information about his accomplishments and the reasons of his success.

You probably have visited his studio and enjoyed a stroll through all its various nooks and corners, listening in the meanwhile to the off-hand explanatory remarks of its owner, who has the smooth manners of a diplomatist and the look of a humorist or after-dinner speaker. I wonder if you have been struck as I have been by the neat and orderly appearance and the precise and economic way in which everything is arranged. There is no waste of space; no matter how well equipped a part may be it is all matter of fact and to the point, and in the working rooms every inch, although the general appearance is one of comfort and ease, is devoted to some specific purpose.

Steffens prides himself that everything in his studio is so well arranged that he can do all his work in a dress suit, and I must confess that whenever I had the pleasure to meet the Commodore (alas! all too rarely) he looked as if he were off to some fashionable party rather than engaged at serious routine work—and yet he is more than most of his illustrious confrères a "one-man photographer," his own dark-room man and occasionally his own printer.

Every craftsman has a leading characteristic, a sort of earmark where one can get hold of him and read some interesting passages. With Steffens I find myself somewhat in a quandary. It seems to me almost as if he had no leading characteristic.

His work is very even, of an excellent average, but elegant, of good, reliable workmanship rather than of strong individuality. A "Steffens" is invariably in good taste, it holds its own in the

best of company, and the critic feels perfectly safe in its presence. Mr. Steffens does not explore his cleverness, he is satisfied with being clever. He has no use for the strong accents of a MacDonald or Strauss—not in vain does his studio, ensconced in the walls of an old church, elbow the fashionable mansions of Chicago's Four Hundred—his trade is exclusive and he scrupulously avoids all claim to popularity. He never appears in print if he can help it, and his prints are rarely seen except in his studio and the homes of his clients.

Why strive for the moon and the stars!

Too much individuality would be fatal to a starched shirt front. Individuality does very well as a finishing touch to elegance; it cannot be wholly dispensed with, but it is after all a mere paragon. Why should a photographer be Quixotic! The main thing is after all to do satisfactory work to please one's clientele. To force his individuality in his case would be hardly wise, as those to whom he might properly aspire are mostly below him as far as good taste is concerned. The very nature of his success compels him to remain reticent in that respect.

To make photographs is a profession to him, as the visiting of patients is to a doctor, or the preaching on Sunday to a clergyman. It is his bread and butter with plenty of jam sandwiched in between. I believe he is prouder of his accomplishments as a navigator and explorer of the Georgian Bay than of the privilege of being "photographer to the social celebrities of Chicago."

This indifference to professional fame and photographic honors has made Steffens what he is to-day: the exponent of the well-made print, the print which carries favor with the upper crowd but with which no fault can be found.

He is the one photographer who, as the French would say, knows his *métier*, his trade. To him photography and portraiture are problems that let him have no peace until he has found the formulæ. The formula once found, the actual result, the Steffens print followed of its own accord. He is the man of constructive ingenuity, with the fingering of the mechanic, the man with the photo-chemical instinct, the man who has studied studio projectiles and their ranges, so that he can tell to a hair's breadth how far they will carry over the table of his reception room and through the window of his receiving teller.

No formula is good for all times. Like a clock it only goes for a certain time. But Steffens knows how to feel the pulse of time. He follows the fashion, often sets the fashion himself, and seldom makes a mistake. Only in his attempt to revive the Daguerreotype, for once, he failed to read the barometer right. Usually if he sets the clock going it runs for considerably more than a season. There are formulas and formulas, but Steffens' are practical ones. He starts with putting his customers into the proper atmosphere, that of exclusiveness and elegance. His operating room is a veritable museum, that in regard to luxuriance and costliness of its exhibits even puts to shame Strauss' battle axes and musical slot machines. People are all curious, and it is comparatively easy to command a sitter's attention in such rare and brilliant environment. Furthermore, he possesses to a remarkable degree the faculty for manoeuvring sitters. He knows how to divert them.

The remainder is strictly businesslike. A little late, you may think, this introduction of business, only when the real work is done. But you must remember that they are society people who frequent this little church devoted to Daguerre, and that it is not always the early bird that catches the worm. Just as theatregoers are never in the right mood for violent action at the rise of the curtain, the wise photographer does not care to develop his intrigue until he has done something to play upon.

But what I admire Steffens most for is his mechanical genius. He is a jack of all trades, capable of improving every article that is put on the market. His workshop is a cabinet of continual surprises, of all sorts of ready inventions and ingenious devices. And who else but him would have ever experimented with a studio with the light coming from two sides!

In these particular proficiencies he is superior to all other photographers, and it is a quality not to be underrated. On the contrary, in my opinion, it is the crucial point on which all technical distinction between good and bad work hinges.

Let me explain this a bit more fully. It must have occurred to all photographers that the haphazard element in exposure, developing, printing, etc., so rampant in our studios, is exceedingly *unworkmanlike,* that there *are* certain laws that govern tone and the intelligent use of every medium of photographic expression.

The difference between the photographic craft and carpentering is merely a difference of skill. If you ask the carpenter to build a fence he measures the height and length, and buys lumber and saws boards accordingly. But the average photographer digs haphazard into materials and like a blind-folded man gropes about for the right way without knowing where it is. An ordinary third-rate violinist in a theatre orchestra is quite capable of giving a demonstration of the purely scientific side of his art; he will know counterpoint, harmony, the laws of accords, of discords, the theory of vibration, the law of tone. How many photographers are there who can make practical demonstrations before a professional audience on the action of lenses —on the property of radiant energy, of the principles governing atmosphere—on the causes of chemical effects, etc., etc.?

I suppose it is needless for me to add that such knowledge alone does not produce a good photographer, but at the same time it cannot be repeated often enough that no photographer has ever expressed himself unless he knew his tools of trade thoroughly, intimtaely. Steffens is pre-eminently that man.

As for his exclusiveness, well, he has probably found it most suitable for his way of doing things. In such matters everybody has to work out his own salvation. Yet I have often wondered whether he was not the wisest of them all. Is there really any gain and satisfaction in a so-called "big" reputation beyond that necessary to build up a stable and lucrative trade? Not that Steffens objects to advertising, but he advertises in a dignified, strictly professional manner that appeals solely to his circle of clients. What is there in the mild and indifferent admiration of the multitude? Is it not barely possible that the photographers who are so fond of lionizing their own personality aside of their work fool themselves? A photographer is no public character and never will be one. No one has better chances than he to become popular. Thousands and thousands of prints conspicuously flaunting his name leave his studio year after year, and yet who in the large and indiscriminating public is really interested enough to take a special note of it, in any way equivalent to the glamor that is attached to an actor's or musician's name? And if a studio is once closed and the sign of the firm taken off the door, nothing remains of the big reputation.

A studio only appeals to its prospective sitters and those customers with whom it has dealt successfully, and the interest after the work is done and paid for is only that of customer to a tradesman. If he is pleased with the work he will recommend it, but even at the best will not go far out of the way to do so.

And for that reason such advertising as advances solely the appreciation of the work of a studio is the most legitimate and profitable method, at least for the large bulk of photographers.

"THE FAVORITE CHICK"

By Alfred J. Meyer, New York

Accepted for the 1906 Exhibition of the
Royal Photographic Society of Great Britain

LIPTON'S RIVALS

By Alfred J. Meyer, New York

By W. H. Wiseman, Alton, Ill.

By M. A. Blazier, Lebanon, Pa.

By M. A. Blazier, Lebanon, Pa.

By W. H. Wiseman, Alton, Ill.

By W. H. Wiseman, Alton, Ill.

Reception Room

Operating Room
Office

College Corner

Studio of W. H. Wiseman, Alton, Ill.

AN UP-TO-DATE STUDIO.

In Alton, Ill., stands one of, if not the finest photograph studio in the State. It occupies a lot 30x90 feet. In its completion we see the results of several years spent in patient endeavor on the part of Mr. Wiseman in attaining his ideal—a first-class photographic studio.

The woodwork in gable and front room or office was at the World's Fair, St. Louis, and received the gold medal as the best example of a room designed and finished in Mission finish; it is of the old English half timber style and is of oak and chestnut.

In the matter of dressing rooms Mr. Wiseman has provided four; one done in green; one a Turkish room, in red, which is more especially a gentlemen's dressing room; one in blue enamel for children with mother (loose paper above plate rail and all kinds of toys on rail) and one in old ivory and pink. This room has polished doors and is kept locked and scrupulously clean for customers with white dresses, such as brides, graduates, etc.

The dressing, operating rooms, hall and stairway are finished in oil colors on plain burlap to plate rail with either tinted walls or crown paper above.

The dressing rooms are provided with light, heat, water and are well ventilated as is also the operating room.

The lighting of the place is made an especial feature, there being sixty electric lights used. The lights in side showcases, ceiling, side walls, college corner fireplace, etc., are all on separate circuits operated by a large gang switch in the office, and the current is cut out of building by clock work at any time it is set for.

Mr. Wiseman employs only the best up-to-date business methods in his studio using the card system, whereby a complete record is kept of each transaction as is done in a bank or post-office. The studio is closed all day Sunday.

Enjoying a good college trade he shows his appreciation of the same by draping a corner of the reception room with college colors, etc., as seen in illustration.

Mr. Wiseman is a stickler for harmony in everything, so it is natural that you will find with him the very best of assistants. Mr. Whitesell, his assistant, can be thoroughly depended upon under all circumstances and is a first-class workman.

Miss Crane, who has charge of the office, is a former student of the St Louis School of Fine Arts and also of Washington University of St. Louis, and moves in the most exclusive social circles of the city.

The exterior of the building is of dressed stone work and with its embattled roof is an attractive addition to the city's architecture.

The very much reduced cartoon which appears at the head of this column is reproduced from the *Alton Telegraph* where it first appeared with an appreciative account of the new studio.

We learn that the people of Alton are very proud of this handsome studio and have made it one of the show places of the city.

Judging from the examples of Mr Wiseman's work, some of which we have pleasure in reproducing, Alton is to be congratulated on possessing a first-class worker in addition to a very fine studio

ART PHOTOGRAPHY IN LONDON.

WE wonder how many years it will be before New York or Chicago will be holding three exhibitions of photography at one time—interesting enough to secure notice in the London press similar to the following taken from the New York *Evening Post*:

Three exhibitions of "art photography" in London are reported to be daily attracting numerous visitors. They are the exhibitions of the Royal Photographic Society, of the Photographic Salon, and of a collection of portraits at the gallery of the *British Journal of Photography*. This collection comprises the photographs taken by the late Mrs. Cameron of Carlyle, Tennyson, Sir John Herschel, Longfellow, Joachim, Darwin, G. F. Watts, Browning, and Miss Ellen Terry, as well as of a few head studies. Mrs. Cameron first exhibited forty years ago, and her achievements were the outcome of slow laborious and difficult methods long since passed out of use in photography. Nevertheless her work is remarkably modern in spirit, even when judged by the latest standards.

The sensation of the Photographic Salon is a nude portrait of George Bernard Shaw, in which admirers of this advertising genius may, as the Academy puts it, "gloat upon his anatomy; may quiz at the size of his feet, and remark upon his adiposity; for there he sits naked and unashamed, in native worth an example to all public characters who put too high a price upon the proprieties. The posture of Rodin's 'Penseur' gives a title to this epoch-making photograph; but it is difficult to understand how mere admiration of a piece of statuary could find such a curious manifestation."

The Academy sums up the relations of the two photographic societies as follows: "The fact that they are deadly rivals is advantageous; for it keeps their efforts at a strenuous pitch. The Salon is purely a pictorial show, while the 'Royal' fills the whole of the New Gallery with exhibits amateur, professional, technical and commercial. It is the *alma mater* of photography, from which a few supporters, who had a grievance, seceded fourteen years ago; they started on their own account, and have never contributed to the mother society's exhibitions since. Their temple they called the Photographic Salon, and for their offerings they claimed a superiority of artistic spirit at the deliberate expense of the mere letter of technical worthiness. This naturally led them into license, upon the reputation for which they have thrived, winning to their ranks many clever folk who dislike restrictions. But the parent society has grown with the times, and between the two there is now little, if any, difference in the style of their work."

PLUCKY prints can be obtained from thin, weak negatives by exposing some distance from the light and interposing sheets of tissue paper or pale yellow glass in front of the printing frame.

A GOOD metol-hydroquinone developer for black tones is:—Metol, 8 grs.; hydroquinone, 30 grs.; sulphate of soda, ¾ oz.; carbonate of soda, ¾ oz.; 10 per cent. bromide of potash solution, 20 minims; water, 20 oz.

IMPROVING THE NEGATIVE.

BY HENRY W. BENNETT, F.R.P.S.

1. **The Aim of every Photographer** is to produce perfect negatives. Most, however, find that a large proportion of plates fail to reach the high standard that they wish to attain.

Mechanical defects mar a small number; in spite of every care, small mechanical defects exist in a large proportion of the negatives produced.

2. **Defective Quality.**—Much more serious, however, is the loss of quality that results from defective working or imperfect conditions of working. Experienced workers have learned by former failures how to avoid the principal sources of failure. There are many others who have passed the elementary stage, and who, consequently, have set a high standard before them, but have not yet succeeded in obtaining a sufficiently large proportion of satisfactory negatives.

From time to time every worker must divide his negatives into groups, separating them into those that are satisfactory for printing without further treatment, and those that are not.

Many of the latter may be rendered thoroughly satisfactory by methods which an experienced worker may suggest. Very few should be absolutely hopeless. In most workers' experience a moderate proportion of plates can be improved by subsequent treatment. Some that are very far from good can made to yield satisfactory prints.

3. **Causes of Imperfect Results.**—Many photographers find that a series of negatives exposed while on a tour present a larger proportion of defective results than those produced at home or on short half-holiday expeditions. And these are frequently the plates that it is most desired should be thoroughly good negatives. Many are subjects that cannot be retaken; most could only be photographed again after a very long interval.

Carrying the plates away and repacking after exposure form a source of trouble to the inexperienced. There is much greater liabilty to dust and scratching of the surface of the film. Changing under difficult conditions or in an unsafe dark room will often result in fogged plates. These and other similar difficulties arise on a tour causing defective negatives when the same difficulties could not arise in the ordinary routine.

4. **The most Simple Method of Repacking Plates** when away from home is to place them in pairs face to face without anything between them. Care must be taken that the films do not rub together when packing. They should be tightly wrapped, four or six in a packet of paper, before putting them in their boxes. On no account should plates be packed with paper in contact with the films.

5. **When changing Plates,** either in an unknown dark room or under any conditions when there is reason to doubt the safety of the light, keep the plates as far away from the light as possible. If no other source of shadow can be obtained, stand between the light and the plates while changing. The shadow of the body will frequently assist in changing plates in safety. Light reflected from the walls has far less influence than the direct rays of the lamp.

6. **Spotting and Retouching** to remove small transparent spots or mechanical defects should be considered first, as it is common to all negatives. Those that are perfect in other respects will require careful spotting. This work should not be attempted until all other operations are completed. When

the spotting is finished nothing should remain except varnishing.

7. **Semi-transparent Spots.**—These are caused by air-bells in development. During the development they have been broken and the image has been partially developed. Pouring the developer on to the plate with an even motion will prevent them from forming. The plate should be wetted entirely at the first flowing of the solution. If any should exist in the finished negative they must be carefully worked out with a hard pencil, very finely pointed. A little retouching medium should be applied to the surface of the film and a series of light and fine touches made with the pencil until the defect almost disappears. There is a great risk of overworking defects of this character.

8. **Transparent Spots or Pinholes.**—These are most frequently caused by dust settling on the surface of the film before exposure. Even when the film is carefully dusted before it is inserted in the slide there is still a risk of dust settling from the shutter. This is more liable to occur when the apparatus is carried a long way. The slides should be frequently and carefully dusted.

The method of treating these spots is the same as that given for semi-transparent spots in paragraph 7 if they are of moderate size. If they are small no retouching medium is necessary. A single touch with a finely pointed pencil should effectually remove the spot.

9. **Negatives that require Chemical Treatment** must be classified according to the manner in which they may depart from the normal quality.

(a) Thin, with fairly clear shadows: insufficient density to give good contrast in the print.

(b) Too strong in contrast, giving harsh prints. Clear shadows and strong high lights.

(c) Fogged or veiled shadows with normal strength of image, giving inferior quality in the prints.

(d) Strongly veiled shadows with weak high lights. A generally weak image giving a very poor and flat print.

(e) Chemical fog.

(f) Stains and surface markings.

A distinction must be made between negatives marked (c) and (d) respectively. The causes and nature of the defective quality are different.

10. **There is always a Simple Test** available for determining whether a veiling of the shadows of a negative is caused by a general fogging of the plate or by over-exposure. If this veiling is the result of over-exposure, or of the condition of the atmosphere, or of the lighting of the subject, those parts of the plate which have been protected by the rebate of the dark slide will remain quite clear and clean. The fog will be confined to those parts of the plate that have been impressed by the image. The same rule will apply if fog is caused by a leak in the camera.

If, however, a veiling in the plate should be caused by changing in an unsafe light, or by too much exposure to light during development, all parts of the plate will suffer equally. Those parts covered by the rebate of the slide will no longer remain clear. This will apply equally to chemcial fog.

11. **When to Intensify.**—Negatives that are thin but have clear or slightly veiled shadows can always be improved by intensification; their only defect is insufficient contrast. There are several causes that result in weakness or want of contrast. It may be due to over-exposure of the plate and stopping development as soon as the shadows veil, or to insufficiently developing a correctly exposed plate, or to extreme weakness or want of contrast in the subject photographed. Under-exposure in the case of a weak subject will always result in a thin negative.

In the case of under-exposure or under-development the shadows of the plate will always be quite clear and the shadow details weak. In the case

of the flat subject or over-exposure, the shadows are always slightly veiled, and the plate is very full of detail throughout. There are well-marked gradations down to the deepest point of shadow.

12. **Formulae for Intensification.**—The most simple form of intensification is by means of mercuric salts. With care and reasonable precautions the results are quite permanent and satisfactory. Two methods are here given; each has its own distinctive character. The results produced by the two methods are different both in degree as well as in their effect in the gradation.

No. 1. **Mercuric Bromide.**

Intensifying Solution.

Mercuric chloride	100 grains
Potassium bromide	100 grains
Water	10 ounces

The negative is immersed in this solution until it is thoroughly bleached. The image should appear as a fine white positive when examined from the back of the plate. The negative must then be washed in several changes of water, then in two or three weak acid baths consisting of one dram of hydrochloric acid in ten ounces of water, and again washed in several changes of water. It should then be immersed in a solution of sodium sulphite, the best strength being one ounce of the salt dissolved in ten ounces of water. In this solution the bleached image rapidly changes to a good black color. When this blackening is completed the operation is finished, and the negative simply requires to be well washed and dried in the ordinary manner. The peculiarity of this intensifier is that it intensifies the stronger parts of the image without a corresponding strengthening of the extreme shadows. A slight veiling is not strengthened at all, and the extreme shadow details receive very slight increase. The medium and lighter tones are strengthened in a uniform ratio, and to about double their original printing value. The increase of density is a fixed quantity. The operation makes a certain and definite change in the negative, and this degree of strengthening is the only result possible. Repetition gives no increase of density.

The peculiar character of the result given by this method of intensifying makes it especially suited for treating over-exposed negatives or any others in which the shadows are slightly veiled and the shadow details are relatively strong. It is unsuitable for under-exposed negatives.

No. 2. **Mercuric Iodide.**

Intensifying Solution.

Mercuric iodide	1 grain
Sodium sulphite	20 grains
Water	1 ounce

The sodium sulphite should be dissolved in the water first, and the mercuric iodide (which is insoluble in plain water) added. The mixed solution will not keep.

The negative is immersed in this solution and the dish rocked to ensure uniform action. The image will steadily gain in intensity for seven or eight minutes. It may be withdrawn at any time if less strengthening is desired. The increase in strength may be gauged by examining the plate. When taken from the intensifier the negative should be washed in several changes of water and acid baths, as directed for mercuric bromide. In the last washing-water the surface of the plate should be gently rubbed with a tuft of cottonwool. After washing, the negative must be treated with an alkaline developer—pyro-soda or any developer containing sulphite—until the color of the image changes to a good black. Many plates show no change of color in the developer. In that case they should be treated for the same time as would be necessary to develop a fully-exposed landscape. No fixing or other treatment is neces-

sary after development, the plate simply requires washing and drying.

The character of the result given by this intensifier differs considerably from that given by the preceding method. The increase in strength is greater, and this increase is in the same proportion throughout the scale. The shadow details are strengthened in the same ratio as the high lights. This intensifier should be used for those plates that require the shadow details strengthening as well as the high lights. Under-exposed plates, more particularly, should be treated with this intensifier rather than with mercuric bromide.

13. **Special Precautions.**—Negatives that have been intensified should be as clean and clear, and as free from defects as those that have been developed in such a manner as to require no further treatment. If failures occur, or if the plates appear stained or defective after intensification, it may be regarded as an indication that the work has been imperfect or defective, either in the original production of the plate or in the intensification. Defects or careless manipulation will frequently become evident when intensification is attempted, even when their result has not been visible sooner.

The points that require special attention in the work of producing the negative are:

(1) Clean and careful development, special attention being given to securing absence of staining and surface marks or defects.

(2) Washing between development and fixing so as to secure a plate free from surface staining.

(3) Very thorough fixing. If the plate is imperfectly fixed, stains are certain to arise during intensification.

(4) Careful washing after fixing. Although this is very desirable, the preceding points are more important. Without sufficient attention at the other stages, thorough washing is valueless.

14. **Negatives that require reducing,** having clear shadows and too strong high lights, giving harsh prints with too much contrast. Negatives of this type are mostly caused by under-exposure, or by unsuitable development of subjects possessing very harsh contrasts. A method of reduction is available by which the high lights are reduced considerably more than the shadows. The high lights may lose half their strength while the shadow details are scarcely affected at all. This is an ideal reducer for the negatives under consideration.

15. **Formula for Reduction.**—The reducing solution is:

Ammonium persulphate	10 grains
Water	1 ounce

The negative is immersed in this solution until sufficiently reduced, the dish being rocked to secure even action. The plate is then rinsed rapidly and placed in a two per cent. solution of sodium sulphite, then well washed and dried. Instead of the sodium sulphite solution, a plain solution of hypo, an ordinary fixing bath, answers equally well.

16. **Special Precautions.**—In using this form of reduction it is very necessary that all the precautions specified in paragraph 13 should be rigidly observed, and that the plate should be free from hypo. In addition the action of the solution must not be allowed to continue after it becomes turbid, or the plate may be unevenly reduced or badly stained. And when taken from the solution it must be placed in the sulphite or hypo solution as quickly as possible, or a similar result will be obtained.

17. **Negatives that require reduction,** having fogged or veiled shadows but with normal strength of high lights (par. 9 c). In many cases the high lights are little, if at all, too strong, and the shadows are strongly veiled, the result being that though the negative prints very slowly the print is still weak and deficient in contrast.

Intensification is valueless on account of the fog or veil.

In such a case a reducer is required that will attack the shadows without materially affecting the denser portions of the image. If the fog is due to over-exposure and the shadow details are strong, such a reducer can be applied with safety, and the negative can be considerably improved in quality and printing value. If the shadow details are very weak this method of working requires extreme caution.

18. **Formula for Reduction.**—The reducing solution consists of a ten per cent. solution of hypo, to which a few drops of a ten per cent. solution of potassium ferricyanide are added at the moment of using. The exact strength is unimportant, as the result given by a weak solution is identical with that produced by the shorter action of a stronger solution. If a slight action is desired, ten minims of the potassium ferricyanide solution may be added to each ounce of hypo solution. Four or five times this quantity of ferricyanide may be used if greater reduction is desired. The mixed solution rapidly deteriorates. When the negative is sufficiently reduced it is simply taken from the solution and well washed; no other operation is necessary. By the use of this reducer greater contrast and brilliancy are secured in the print, and the quality described in paragraph 9 c greatly improved.

19. **No Special Precautions** are necessary when using this reducer beyond care in not employing too strong a solution. If the work is commenced with a solution that is too weak in ferricyanide, more may be added as required.

20. **Negatives that require both Reduction and Intensification.**—Plates described in paragraph 9 d are troublesome and difficult to treat satisfactorily. They combine defective qualities of opposite character. The high lights and lighter tones are weak and insufficient for giving good printing value even if the shadows were clear; but the fact of the shadows being badly veiled renders the poor quality still more pronounced.

This defective quality may result from extreme over-exposure or from chemical or light fog. All the gradations are extremely weak in addition to the work being lost in general fog.

21. **Before strengthening the Image** it is necessary to remove the fog or veiling. The plate should first be treated with the reducer given in paragraph 18 until the extreme shadows are almost clear. Care must be taken that the action does not proceed too far. If too much is removed from the shadows, if any details are eaten away, they cannot possibly be restored. The reduction should be stopped while there is still a perceptible veil over the deepest shadow. In addition, regard must be paid to the general character of the negative. It should be left in such a condition that a moderate strengthening will produce a plate of fair printing quality.

22. **After Reduction the Negative should be Intensified.**—Either of the methods previously given may be employed, but the negative should be thoroughly washed before intensification is attempted. The first formula in paragraph 12, mercuric bromide, produces less density than the second formula, mercuric iodide. The former will also slighty reduce any veiling left in reducing. The method to be employed must be determined by examining the plate after reduction. If it is very weak the mercuric iodide method should be used. If moderate strengthening only is required either formula may be adopted.

23. **Chemical Fog.**—This is the most difficult defect to treat successfully. In many cases it is accompanied by general weakness of the image, and frequently the shadow details are very weak or non-existent. In such a case the result can never be good. If the fog is slight and the image fairly

strong the reducer given in paragraph 18 may be employed. Extra care will be required in order that the weaker details of the image may not be affected. This will improve the printing quality of the negative and produce a brighter print. If the fog is more pronounced and the image weak the treatment given in paragraphs 20, 21 and 22 should be followed.

24. Negatives Stained in Development.—Staining will occasionally happen with prolonged development in a solution containing insufficient sulphite. This stain can be removed by means of an acid bath. The formula is:

Alum	1 ounce
Hydrochloric acid	1 drachm
Water	10-20 ounces

The strength may vary according to the degree of staining. The less time that intervenes between finishing the negative and applying the acid bath, the more readily can the stain be removed. After a time it is almost impossible to remove it.

25. Negatives Stained after Development.—If negatives are allowed to remain out of water for any length of time between development and fixing, they may become stained. The stain is somewhat different from that caused by prolonged development; it is a more lemon-yellow color. It appears to be impossible to remove this stain after the plate is fixed. If it is noticed that a plate has been only partially submerged in the washing between development and fixing, it should be at once placed in the acid bath given in paragraph 24, and then well washed and fixed.

26. Surface Stains and Marking.—These are generally caused by want of care in development, e.g. mixing a developer in a measure containing a little stale developer, using a dirty dish, omitting the washing between development and fixing, etc. Surface stains of this nature are removable by the application of the reducer given in paragraph 18. The solution must be much weaker than when used for reduction; the first formula given in paragraph 18 should be diluted with four or five times its volume of water. It will then consist of a two-per-cent. solution of hypo, to each ounce of which about two drops of a ten-per-cent. solution of potassium ferricyanide should be added.

27. Iridescent Staining on the Margins of the Plates.—This is most frequently caused by the plates being stale or improperly stored. No precaution in working will prevent it from appearing. In many cases it is visible before development. It can be easily removed by the method given in paragraph 26. In extreme cases the solution may have to be used much stronger then given in paragraph 26. It should, however, never be stronger then the first formula given in paragraph 18. This solution will remove all surface defects before producing any effect on the strength of the image.—*Practical and Pictorial Photographer.*

A Quick-Drying Backing—A quick-drying backing is always wanted, and the following, which, whilst not strictly novel, may be new to some, was given recently in a Belgian journal:

White soap	30 grains
Wood alcohol	1 oz.

Castile soap, or, in fact, any good hard soap, may be used; either it may be bought powdered from any chemist—or a piece of toilet soap shaved fine. This should be put into the spirit and the whole warmed up till mixed (perfect solution cannot be obtained), and then add

Erythrosine	5 grains
Aurine	4 grains
Ivory black	4 grains

Just before use shake the bottle well, and then paint over the back of the plate with a soft camel's-hair brush. This dries in ten minutes, and does not chip or powder off, and can be easily wiped off with a damp sponge.

GASLIGHT EMULSIONS FOR PLATES AND PAPER.

BY A. J. JARMAN.

THE great and growing popularity of papers of the washed gelatine emulsion class has called forth many varieties of development printing papers, but little has been written of their manufacture. The following practical article by Mr. Jarman will greatly interest the photographer who likes to make his own paper —and in a lesser degree the man who prefers to use the well-known and reliable papers on the market, to him it will be interesting to know how the paper he uses is prepared.—ED. W. P. M.

To prepare emulsions with gelatine as the vehicle is not a difficult matter if the formula is correct and the instructions are followed to the letter. This applies to bromide, bromo-iodide or chloride emulsions, all of which are to be employed for developing, and not for printing out purposes. A large number of formulæ have been given for preparing *bromide* emulsions; very few, if any, have been published for *chloride* developing emulsions.

Those who are desirous of preparing either plates or paper in a small way can rely upon the formulæ given here to produce good results, moderately rapid and free from fog, the last-named defect being the one that has caused endless trouble to so many photographers who have tried to prepare their own emulsions; other difficulties have arisen, but none so troublesome as the above. The writer has tried and tested formulæ almost beyond number to obtain one that could be absolutely relied upon for certainty and sure working in every particular, and after trying and testing every published formula has decided to publish here only those that can be depended upon and easily prepared.

Preparation.

To prepare emulsions, a separate crock *must* be used for each emulsion, one of half-gallon size, such as is used for the preparation of pickles, is just the utensil, folded in at the neck and provided with a stoneware lid.

Assuming that it is the intention of the reader of this article to test the formulæ here given, three or four such crocks will be required, costing about twenty-five cents each. These must be well washed in hot water, then filled with cold water and allowed to stand twelve hours, then washed or scalded with hot water on the inside, the object being to extract any soluble matter or salts that may cling to the glazing. Use no soap, soda or washing powder.

Chemicals.

The chemicals required will be as follows. They must be of the highest purity to insure the best results. These chemicals are best kept in well-corked, wide-mouthed bottles, and stored in a cool, dry place.

Bromide of ammonium.....	1 pound
Iodide of potassium	2 ounces
Citric acid, powdered.....	4 ounces
Chloride of ammonium.....	1 pound
Stronger water ammonia, '880..	1 pound
Chrome alum	½ pound
Hard gelatine, Heinrich's.....	1 pound
Nitrate of silver.....	½ pound

A number of glass strips will be required cut from a cleaned 11x14 plate, not more than one inch wide. The above size plate is of a suitable thickness for these stirring strips. In addition to the crocks as many ordinary earthenware basins will be required, to be used as covers for the crocks as well as the stoneware lids. These basins must fit loosely over the crocks, as a packing of half a dozen thicknesses of good black paper must be used to make the crock light-tight. During the operation of making the emulsion sensitive, a thermometer will be required, one that is set in a tin case or frame, to enable an uniform tem-

perature to be maintained. This is of the utmost importance, because the variation of temperature will cause considerable variation in the quality of the emulsion as well as the sensitiveness. The cost of such a thermometer runs twenty-five to fifty cents. A moderate size saucepan or boiler will be needed to stand the stoneware crock in. This boiler must hold about a gallon and a half of water when the crock stands within it. A good quantity of water will keep up a more even temperature than a small quantity. This point also tells in making emulsions of uniform quality: the crock must stand upon a thin wooden frame so as to keep the bottom a slight distance off the saucepan, thus allowing even distribution of heat. To prepare the emulsion proceed as follows:

The Emulsions.

Bromo Iodide Emulsion, No. 1:

Distilled water	4 ounces
Hard gelatine	250 grains
Ammonium bromide	175 grains
Potassium iodide	5 grains

Place the above into a clean crock, stand the crock in the saucepan upon its wooden frame, pour in sufficient water in the saucepan around the crock, three or four inches high; apply the heat by means of a double ring gas stove; bring the temperature up to 120 deg. Fahrenheit, not higher; reduce the flame so as to keep this temperature uniform; stir up the contents of the crock with the glass strip until the gelatine is completely dissolved and the salts well incorporated. Meantime prepare a solution of nitrate of silver as follows:

Distilled water	3½ ounces
Nitrate of silver	230 grains

Stir this well with a narrow glass strip until the crystals are completely dissolved, add to this drop by drop stronger water ammonia '800, stirring vigorously at the same time. The instant the ammonia touches the solution a dark brown precipitate is formed of oxide of silver. The ammonia must be added only a drop at a time, until the oxide of silver is redissolved with ammonia of the above strength. About half an ounce will produce the desired result. Be very careful when the liquid is clearing up that the ammonia is added very slowly. As soon as the cloudiness has nearly disappeared stop the addition of ammonia, stir well, when it will be found that the liquid will become quite clear. It is now ready to add to the contents of the crock; remove the crock and repair to the dark room; stand the crock upon a towel, and tilted, so as to allow the emulsion to drain to one side; remove the lid, then add the silver solution, a few drops at a time, to the warm gelatine mixture, stirring with a glass strip vigorously at the same time. When the silver solution has been all added, replace the stoneware lid, place over this half a dozen sheets of black paper, then press the basin down over this, which forms a packing that is completely light-tight. As the operation of emulsifying is carried out in daylight, the above precaution is necessary. Cut off the stray edges of black paper evenly and return the crock to the vessel with hot water. Keep the temperature at 120 deg. for half an hour; lift the crock out of the water occasionally during this time, and shake round and round so as to keep the emulsion in a thoroughly mixed condition. At the end of twenty-five minutes remove the crock to the dark room and place therein eighty grains of hard gelatine, close the cover and heat for five minutes. At the end of five minutes take the crock into the dark room again and stir the emulsion well with a glass strip until the last added gelatine has become completely incorporated. Now close the top, well covered once more, and stand it into cold water to set the emulsion; a little ice may be used if the water is not cold enough.

Emulsifying may be carried on for three-quarters of an hour, but no longer. This will give more sensitiveness and still be free from fog.

As soon as the emulsion has become set into a stiff jelly it is ready to be washed. Do not have this emulsion stand for many hours, especially over night, because the sensitizing still goes on, even when cold. This action will be sure to produce fog. It must be clearly understood that all the operations, from the time of mixing the nitrate of silver with the gelatine solution, *must* be carried out under a deep ruby light.

Washing.

The washing of the emulsion must now be proceeded with. Obtain a yard or two of white mosquito netting, or better still, the white meshed cloth used for wool work. If mosquito netting is used it must be washed and folded double; if the wool cloth, one thickness will do. In either case the material must be well washed before using. Under a ruby light remove the lid of the crock, place the hand inside, and with the forefinger run around the clot of jelly. It should be so well set that it will lift clean and free from the crock. Pour into the crock two pints of clean cold water in which a piece of ice has been melted to lower the temperature. Break up the clot of jelly with the finger. Place a piece of the jelly into the cloth, bring the four corners together, then, with a twisting action, hold the body of the cloth in the left hand, twist the extraneous parts with the right hand. The strain to be exerted will depend upon the stiffness of the jelly. Having found by the squeezing of the first piece that the shreds are fine and uniform, wring the balance of the jelly through in the same way, allowing it to fall into the water contained in the same crock.

Having now broken up all the jelly, unfold the cloth and wrap it folded four times over the top of the crock; tie it well all round with a clean piece of tape. This prevents any contamination from the use of string. Turn the crock upside down, allow the water to drain off, turn the crock over, pour into it *through the cloth* a quart of clean cold water, swish the crock around rapidly so that the jelly shreds circulate well in the interior, invert the crock once more until the water has drained out well. These two first washings will remove the main quantity of the salts of decomposition. The washing of the shreds must continue in this way for half an hour at least, giving five minutes time between each change. If washed for one hour in the above manner it will ensure all the decomposition salts being removed, which consist of nitrate of ammonia and nitrate of potash. Both these salts being very soluble in water, there need be no fear of their retention in the jelly after an hour's washing. The cloth must now be removed, and the shreds that adhere to it be scraped off with a celluloid or hard rubber knife (under no condition use a metal knife), wring the cloth well in a stream of running water from the faucet, fold it up before replacing it upon the crock; tie it firmly; then invert the crock upon the top of another crock or stoneware pitcher, where it must remain for half an hour to permit the excess of water to drain off; now turn the crock over, remove the cloth, scrape into the interior any shreds of jelly that may adhere to the top and cloth; replace the stoneware lid, also the packing paper and basin, when all is now ready to melt and filter for coating either plates or paper proceed as follows for the coating:

Coating Plates.

Place the crock, well covered, into the vessel that was used in the preparation with water about two or three inches high; raise the temperature to 120 or 125 degrees. Then lift the crock from the warm water and swing it round and round, so that all the jelly shreds become melted. Now repair to the dark room, and add one ounce of *pure* alcohol (do not use wood alcohol or Columbia spirit, because both these alcohols cause a subsidence and curdling of the

emulsion). Stir the emulsion well with a glass strip during the time the alcohol is being added. Just as soon as the mixing is complete, filter it through absorbent cotton, pressed into an inverted kerosene lamp chimney, with a double thickness of cheese cloth tied over the bottom; as soon as filtered it is ready for use. If plates are to be coated, they must be well cleansed beforehand, standing ready for use. The coating of plates is accomplished by taking one in the left hand, balance it upon the tips of the fingers and thumb, pour upon the centre a pool of emulsion from a four-ounce graduate, tilt the plate slightly so that the emulsion flows to each corner, then with a slight incline, return a portion of the emulsion to the graduate, taking care that no air bubbles are formed; then lay the plate down upon a evelled slate or marble slab to set, treat a number of plates in this manner. When set, place them in a clean rack and stand in a well darkened closet to dry.

Coating Paper.

To coat paper (almost any kind of drawing paper will do) cut up some pieces 7½x20 or 25 inches long, fold the ends three times, so as to form a stiffened strip about half an inch deep; then pour into a clean hard rubber or composition tray five ounces of emulsion, take up one of the sheets of paper, hold it by the folded ends, bend it into the shape of the letter J, allow the curved end to touch the emulsion, raise the left hand, lowering the right at the same time; perform this operation twice, hold the sheet at such an angle that the excess of emulsion may drain into the tray, just touching the side to prevent air bubbles being formed then fix the top to the edge of a shelf by two black varnished pins and clip at each corner of the bottom of the sheet two wood clips. These will aid in keeping the paper straight during drying. As soon as dry, cut to size, keep under pressure away from all actinic light until required for use.

Chloride Developing Emulsion.

For plates or paper is made as follows: Into a clean crock place the following:

No. 1.

Hard gelatine, Heinrich's.....	2 ounces
Distilled water	10 grains
Chloride of ammonium, C. P..	108 grains

Dissolve the above in just the same manner as described for the bromo-iodide emulsion; the temperature may reach 130 deg. Fah.

No. 2.

Nitrate of silver.....	252 grains
Citric acid (powdered).....	30 grains
Distilled water	10 ounces

When the gelatine mixture is ready which will be known as soon as the gelatine has become completely dissolved. This is aided by occasional stirring with a glass strip. Take the crock into the dark room, and the acid nitrate of silver solution; exclude all actinic light; pour the silver solution a few drops at a time into the hot gelatine mixture, stirring rapidly during this addition; continue until all the silver solution has been added, allow the stirring to proceed for five minutes after the mixture is complete. Now replace the lid, cover with black paper packing, press down the basin, stand the crock into very cold water to set, or place it in an ordinary ice box until the emulsion has become quite set. As soon as this has set into a stiff clot it must be broken up and washed in the same way as already described. If it is desired to keep it for twelve to twenty-four hours before breaking up and washing, then one ounce of pure alcohol must be added at the time the emulsion is made. When this emulsion has been broken up into shreds and washed it can be remelted and used at once. In this case the emulsion forms a much stiffer jelly than the bromo-iodide; it is absolutely grainless and admirably suited for making transparency plates, gaslight opals and paper for printing by artificial light, as it works clean and clear with pure blacks and whites. To coat plates or

paper, proceed the same as already described. The developers best suited will also be given at the end of this article.

Bromide Emulsion.

A bromide emulsion prepared as follows will give a very sensitive film and work clean:

Distilled water	4 ounces
Hard gelatine	235 grains
Bromide of ammonium	155 grains
Stronger water ammonia, '880.	1 drachm

Make up this mixture in a clean crock, heat to 125 deg. Fah. As soon as melted the following must be added very slowly, with vigorous stirring:

Nitrate of silver	200 grains
Distilled water	4 ounces

After the above has been added cover the crock perfectly light-tight as described, and heat for three hours at 125 deg. Fah. At the end of this time add ninety grains of hard gelatine, cut into fine strips, stir until melted, then allow to become well set. Proceed to break up the jelly, wash, drain and melt for coating as described, adding one ounce of pure alcohol previous to filtering.

This emulsion is also suited for plates or paper, is very soft in effect, giving less contrast.

Developers.

Almost any of the modern developers will suit these emulsions, but those that the writer has found the best are made up as follows:

Developer for chloride emulsion:

Metol	20 grains
Hydrochinone	40 grains
Warm distilled water	15 ounces

Dissolve the above and add sulphite of soda anhydrous (granulated), 140 gr., shake the mixture well until this is dissolved, add 120 grains of granulated carbonate of soda and seventeen ounces of cold distilled water; add to this thirty-two drops of a 10 per cent. solution of bromide of potassium (1 oz. bromide potassium in ten ounces of water). When the above is cold it is ready for use.

Any of the ordinary pyro developing solutions will suit for the plates, but not for the paper.

With the bromo-iodide plates the following potash developer gives excellent results:

No. 1.

Pyro Developer for Plates.

Distilled water	12 ounces
Sulphite of soda (granulated)	1 ounce
Pyrogallic acid	1 ounce
Citric acid	60 grains
Bromide of ammonium	20 grains

No. 2.

Distilled water	12 ounces
Sulphite of soda (granulated)	1 ounce
Carbonate of potash	3 ounces

When developing take four drachms of No. 1 and four drachms of No. 2, add eight ounces of water. If the plates have been over-exposed use only six ounces of water.

In warm weather the emulsion will require half a drachm of a 10 per cent. pure chrome alum solution added with the alcohol previous to filtering and coating.

The best fixing bath for the chloride plates and paper will be found as follows:

Hypo sulphite of soda	4 ounces
Water	20 ounces

Dissolve two drachms of powdered alum in ten ounces of water and two drachms of acetic acid, add this to the hypo solution, stir well, when it will be ready for use.

Etching Labels.—The following may be used to etch names, etc., on bottles:

No. 1.—Sodium fluoride, 36 grains; potassium sulphate, 7 grains; distilled water, 1 ounce.

No. 2.—Zinc chloride, 14 grains; distilled water, 1 ounce; strong hydrochloric acid, 65 minims.

Mix in equal parts and write with a quill, or paint on with a fine camel's hair brush. The mixture must not be kept, nor allowed to touch the skin or nails.

PLATINUM PRINTING.

BY WALTER BENNINGTON.

THE following interesting article on the platinum process is but one of the many helpful and practical papers to be found in the "Year Book of Photography," an annual that should be found in every photographer's work room. G Gennert, New York, is the American publisher, and the price is fifty cents.

It is very gratifying to see how the platinum process is increasing in popularity among photographers, who, for some reason or another, seem to have fought shy of this most beautiful of printing processes; indeed, even now its use is largely confined to the ranks of the more advanced workers. One is puzzled to know why this should be so, for its advantages are very many; the range of tones is unlimited, reaching, as they do, from the most delicate pearly gray to the strongest and richest of blacks. The time of exposure in printing is about half that required for P. O. P., and the after-manipulations are quicker still, it being possible to finish and dry a print in five minutes from the time of removal from the printing frame if it should be necessary; the chemicals employed are cheap and easy to use; there is no glistening soapy surface of gelatine to be squeegeed to ferrotype, and stick there, or to blister, or to melt through drying before the fire (which we may do with impunity) or to curl up and refuse to lie flat; the prints are as permanent as the purest paper and metallic platinum can make them; and last, but by no means least, the results are very beautiful. There are some disadvantages, of course, though not many. To those of slender income the initial cost of the paper is a little high, more so now than it was a month or two ago, but this is to a large extent compensated for by the great saving of cost in chemicals, and the waste of paper through spoils—when one has learned to judge the exposure accurately —is much less than with P. O. P. The drawback is that it is not a "print-out" paper; at least, not wholly so. The length of time of exposure to light has to be estimated by the appearance of the print but the visible image is only very faint a pale purplish gray, or in the dark shadows a pale orange, on a lemon-yellow ground. This pale image has to be developed out to its full strength. The only difficulty in the whole process is the accurate judging of the strength of the print in the printing frame, and this is not so great as in the case of bromide papers, where there is no visible image at all, and it is one which quickly disappears with experience and practice. The limited range of colors obtainable is quoted as a disadvantage, but all shades of brown are easily obtainable, from a pure yellow, through golden-brown to a warm black, and for a monochrome art these are enough, for the multiplication of colors is to be depreciated. We shall see, also, that the accusation is not a fair one, for red and blue and green are possible. It must not be lost sight of, though, that any interference with the disposition of the chemical components of the image may quite likely affect its stability.

Varieties of Makes.

There are several makes of platinum paper, of which it is not necessary to specify the makers, for they are all of them similar in principle to that invented and introduced by Mr. Willis. The simplest variety gives, with normal treatment, black or cool gray tones; there are also special papers for brown tones known as sepia, for which, to get the best results, special developers are required. It is best to begin with the simplest, that giving the black or gray tones with a cold developer, quite the most fre-

quently used. The paper may be obtained in a variety of surfaces, smooth and rough, and of varying grades and thicknesses; some makers also supply fabrics, muslin, linen, canvas, and silk prepared in exactly the same way as paper, and requiring the same treatment.

Precautions against Damp.

Platinum paper is sent out by the manufacturers in hermetically sealed tin canisters. This is to prevent the admission of moisture from the air, which would quickly so affect the paper that it would no longer give pure brilliant whites. An extra precaution is taken by the makers, who include in the tin a piece of calcium chloride, which has the property of attracting to itself and absorbing all the moisture in the tin. Once the tin has been opened, air containing a proportion of damp will, of course, get in; and, though in small quantities, yet it will eventually spoil the paper. It therefore is necessary to store it in special tins, known as calcium tubes.

These are made with two compartments, each of which has its own lid, one compartment for the paper having a perforated false bottom, and the other intended to hold calcium chloride. When in time the chloride becomes soft with absorbed damp, it can readily be dried again on a shovel over a fire, and replaced in the tin. A rubber band is put round the junction of lid and tin to exclude the air.

The only object of these precautions is to prevent the moisture from destroying the brilliance of the prints. If paper is stored for a long time, even in unopened tins or in calcium tubes, it will be impossible to obtain perfectly clear high lights owing to deterioration of the same kind. This slight degradation of the lights is at times useful, for old paper in this state may be used with great advantage to print from negatives which would give too harsh, soot-and-whitewash results on freshly prepared paper.

Many advanced workers made deliberate use of old paper, keeping it for months until it has reached this stage, and with it produce very beautiful low-toned effects, which it would be impossible to obtain by any other means. If the paper is to be used quickly it is hardly necessary to transfer it to the special tube; in fact, it is possible to store it for quite a considerable time in the tin in which it is bought by the simple expedient of sticking a piece of adhesive rubber plaster round the lid, and over the hole in the top. In the printing frame similar measures against damp are advisable, and usually a sheet of india-rubber cloth or celluloid is put between the paper and the frame back. A very serviceable material for the purpose, to be obtained in large sheets at printers' stores, is known as printers' "glazed-board."

One side of the paper is yellow; this is the sensitive side, and should be touched as little as possible, and not at all with damp fingers, otherwise light marks will appear. The paper should be handled and all operations until washing conducted in a subdued or artificial light.

Time of Exposure.

The time required for printing is about half that of P. O. P., and the negative most suitable is a good one with fair contrasts but just inclined to thinness; if the contrasts are too strong the shadows will show a bronzy-brown appearance. But the quality of the negative must be determined by the character of the print required. It would seem almost an impertinence to say to the advanced photographer that this or that kind of a negtive is more suitable than another for a given process; if a worker will give himself the small trouble of making experimental prints from three or four negatives of various densities and scales of gradation, ranging from very soft and full of detail, to very strong and contrasty, he will soon be in position to suit his negatives to the class of print which he intends to produce, deliberately causing what another man might consider faults in order to get certain effects.

which he could not as readily obtain by other means.

The negative is placed in contact with the yellow side of the paper in an ordinary printing frame, the above-mentioned precautions against damp being followed. As in silver paper, printing should be done in diffused light, except for very harsh negatives, which should be printed in the direct rays of the sun. The progress of printing is observed in the usual manner for printing-out papers, by examination at the back of the frame, such examination to be made in subdued light; printing should be stopped when the details of the chief lights are just visible. If the paper is damp the visible image is not so strong as when dry, so that printing must not be carried so far.

The Only Difficulty.

It is at this stage that the beginner will experience his only difficulty, particularly with light-toned subjects, some of which it may be found necessary to stop printing when the image can only just be detected on the paper; with negatives of this kind it is advisable to use an actinometer of some kind, though a small amount of practice will soon give the necessary accuracy of judgment.

When it is considered to be sufficiently exposed, the print should be removed from the frame, and, if it is not to be developed at once, it should be stored in the calcium tube. When it is convenient to develop, four deep dishes should be placed in a row, one for developer, the other three for successive baths of clearing solution.

Developing Formulae.

The developer may be the special salts provided by the makers of the different brands of paper, which doubtless may give the best results; but perfectly satisfactory prints are obtained with a solution of neutral oxalate of potash, which is much the most popular developer. It is mixed in about the proportion of two ounces to a pint and a half of hot water, and should be prepared time enough before use to allow the oxalate to dissolve completely and the solution to cool to about 70 degrees F. Another formula which gives very excellent results, with brilliant blacks just inclined to warmth in color, is—

Potassium oxalate, 2 ozs.; potassium phosphate, ½ oz.; water, 1 pint. To give the typical cool platinum blacks and greys these developers must be used at a temperature not higher than 70 degrees F., otherwise the tone is appreciably warmer, the more so as the temperature is raised. Besides this, the hotter the developer, the quicker is its action, and consequently, the less it is under control. The fixing or clearing bath consists of a solution of one ounce of pure hydrochloric acid in three pints of water. The developer is put into the first dish, and a pint of the hydrochloric clearing solution into each of the other three. We are now ready to begin developing.

Manipulation.

The paper, as it is supplied, is curled round with the sensitive side outwards and should be stored with the same curve which is of assistance in placing the print into the developer. The way in which this is usually done is to take hold of the print by opposite corners by means of the fingers or small wooden clips, and dipping one corner first under the developer to slide the print quickly, face downwards, under the solution until it is completely submerged, then immediately turn it face upwards and inspect for air bubbles; if any, these must be broken by gentle pressure of the finger, taking care not to rub the surface of the paper, which, when wet, being exceedingly soft, is very easily bruised and damaged. The developer must be allowed to complete its action otherwise blotchy and mealy prints will result. This movement of putting the print into the bath should be brisk and uninterrupted, for the change of the image from a faint, pale ghost to full strength occupies at most five seconds,

and an interruption in the flow of the developer may show in the finished print; in the same way air bells may leave a mark; these marks need not necessarily appear, but still the risk is there. Another way of applying the developer is to flow it over the print in the same manner as in developing a negative plate; and yet another, which effects great economy in the case of large prints, insomuch as two ounces of solution will suffice for the work which would otherwise require about a gallon, is to coat the print with a thin layer of glycerine, and after diluting the developer with an equal volume of glycerine the mixture is gently rubbed over the surface with a tuft of cotton wool or a large, soft brush.

Clearing the Print.

The developed print will be found still to retain a fair proportion of the yellow color, owing to the continued presence of sensitive salts unaffected by light; these must be removed by means of the clearing baths, into the first of which the print is put without intermediate washing as soon as the image has fully come up; here it must remain for about five minutes, when it is removed to the second dish of the same for a like period or a little longer, and, finally, into the third for about ten to fifteen minutes, after which it is ready for washing. The first clearing bath quickly becomes yellow, and after several prints have been passed through it should be thrown away and fresh solution put into the dish, which should be used as No. 3; No. 2 and No. 3 becoming Nos. 1 and 2 respectively. The print should on no account be taken out for final washing, until it leaves the last fixing or clearing bath as pure in color as it was when first put in; if it tinges it yellow in the first degree it must go through yet another bath. There are salts of iron used in the preparation of the paper which it is the function of the hydrochloric acid to remove, and unless this is thoroughly effected the paper will in all probability eventually turn yellow, though the deposit of platinum forming the picture itself is quite stable, and cannot be affected by any ordinary conditions under which the print is likely to be kept. After the final clearing the prints must be washed in running water for twenty minutes, or in five or six changes of water during half an hour.

Keep the Prints Moving.

In all these operations great care should be exercised if a number of prints are being treated in a batch to keep them from clogging together in a bunch in the several baths, and to use plenty of all solutions, otherwise they will not come thoroughly into contact with the chemicals and washing water. The prints should be moved about, also, to ensure this, in much the same manner as when toning P. O. P., and here again care is necessary in handling to prevent abrasion of the surface, for the paper becomes very tender, and even rotten, during the action of the acid and soaking in water, and it is very easy, particularly in the case of the rougher papers, to rub the surface to such an extent that only by much laborious retouching can the damage be repaired. Large prints, too, can be easily torn by reason of the weight of the wet paper, and should be lifted gently.

Drying.

The prints when washed should be put between clean blotting paper under slight pressure. If they are to be mounted on card no special precautions to keep them flat are necessary, but if the so-called American style of mounting is to be adopted prints larger than half-plate are very apt to cockle unless very carefully dried. A good way to ensure flat drying is to take them out of the first blotting paper while still damp, and transfer them to a fresh lot of perfectly dry sheets, in which they should be left under light pressure until they are quite hard and dry themselves. The same amount of pressure should be continued until the prints are perfectly dry, otherwise cockling will ensue. If the prints are wanted

in a hurry they may be dried by heat with perfect safety.

The Hot Bath Process.

The hot bath process for black prints is now seldom used, as saving only that it gives slightly flatter results from harsh negatives, from which it picks up more detail in the lighter tones, it shows little or no advantage over the cold, is less under control owing to its greater rapidity of action, and is certainly more troublesome and inconvenient.

The only difference in working lies in the fact that the developer is of double the strength of the formula given above and is used at a temperature of about 150 deg. F. A special paper has to be used, and the image literally flashes up immediately it touches the hot solution This paper gives blacks of a very slightly warmer tone. The developer is put in a deep granitine or enameled iron dish, which stands on a metal plate covered with sand, or in another dish, which also should be of metal, containing hot water or a mixture of hot water and sand. The plate of sand or dish of hot water is to be supported on a stand or trivet over a spirit lamp or gas ring to keep it at an even temperature. Subsequent treatment is identical with that of the cold bath paper.

The Sepia Process.

The special sepia paper must also be developed on a hot bath; this consists of a solution of the special salts supplied by the manufacturer, or of the normal oxalate developer with the addition of some of the special solution also to be obtained from the maker. It is strongly recommended that these special chemicals be used, though passable results can be obtained by the use of the ordinary developer given above, particularly if a small quantity of oxalic acid be added. For Jacoby's sepia paper for cold development the following formula gives excellent results: Water, 10 oz.; potassium oxalate, 3½ oz.; oxalic acid, sat. sol. 1 oz.

It will often happen that a print through inaccurate timing of exposure is too weak or too strong, and though the results are seldom as satisfactory as when correctly printed, yet it is possible to effect considerable improvement by reduction or intensification.

Reduction.

There are only about two methods of correcting an over-exposed platinum print after it is once finished, the one an actual reducing of the image, and the other a toning process introduced by Packham, in which the action is not strictly a reduction at all, but simply a change of the black to a visually lighter color, viz., brown. The reducing method is as follows: Make a saturated solution of chloride of lime, decant the clear liquid and dilute with four times its volume of water; immerse the print in this until sufficiently reduced, and then transfer immediately to a 5 per cent. solution of sodium sulphite to arrest the action of the chloride, which is exceedingly powerful, and will rot the paper. The print requires thorough washing and careful handling. Packham's process consists of staining or toning the print with a solution of catechu or cutch. A stock solution must be prepared by boiling ¼ oz. of Bengal cutch in 5 oz. of water in a glass or porcelain vessel for a few minutes—a Florence flask is best; when cool 1 oz. of alcohol is added. For use 20 to 30 minims of this stock solution are mixed with a pint of hot water at about 150 deg. F. Prints may be toned in this solution in about a quarter of an hour. If the temperature is lower than this the process of toning occupies a much longer time. The addition of a little pure sugar to the oxalate bath renders the print much more amenable to the toning action of the bath. It is quite possible that the lights of the print will show signs of coloring yellow, and while in many subjects there will be no objection to this, yet it will often be desirable to clear them. This may be done by soaking in a hot

2 per cent. solution at about 180 deg. F. of soda carbonate, in which a small piece of castile soap is dissolved; this has the additional effect of intensifying the color. Special care must be taken in clearing prints intended for this process as the presence of the slightest trace of iron in the paper will inevitably cause irregularity and blotchiness of tone, though at least one authority states that a slight proportion left in the print causes it to take more kindly to the stain.

FACING THE CAMERA.

THE following interesting remarks made by Miss Florence Rockwell in the *New York Evening Telegram* show her to be a keen observer as well as a clever actress.

Some people talk about facing the camera as if it were as bad as facing the music. And facing the music it is, too, sometimes, for the camera is a very capricious instrument. While oftentimes it flatters, again it is appallingly honest, and shows one's faults in quite an alarming manner.

I knew a girl once who broke her engagement with a man because she said she couldn't bear the way he looked in a picture he had sent her. Later on he proved to be just as bad as she thought he looked in the photograph.

The camera, I think, is sometimes able to catch glimpses of character that are not visible to the human eye, and I like to study personalities when they are thus exposed. Portraits even by the greatest painters do not interest me so much, for the charm of the artist's own temperament coloring his conception of the individuality of his subject misleads rather than enlightens me. I prefer the matter of fact, unemotional, sharp sighted camera, and I have a splendid collection of photographic studies of all sorts of celebrities.

Actresses are said to be better subjects than other women, and if this is really so, I suppose it is because they are less self-conscious. They are accustomed to being noted and commented upon, and the critical squint of the most finicky photographer is not to be compared to the contemptuous glare of some stage directors.

But I should say to the woman who wants to look her best under the skylight that the photographer and his assistants are enough of an audience, and that a couple of relatives or friends standing around with a "wonder when the camera will break" expression would make an houri look horrid.

I have noticed that most of the good photographers have mastered the art of flattery, and after their careful preparation is finished, and they are ready to "snap," they assume a rapt expression of admiration and inform you that this is going to be a wonder, and though you know it is part of the day's work you "look pleasant" just the same, which reminds me of a good old soul who was my dresser at the theatres a short time ago.

She had spent almost all her life behind the scenes, and had learned the lesson that to be agreeable she must be appreciative, but her vocabulary and ideas were limited. She would watch my scenes from the side, and as I came off exclaim, "You did fine and you looked lovely." This she kept up faithfully every night and every matinee, always apparently with absolute earnestness and sincerity. Even when she was detained in the dressing room and could know nothing about what was happening on the stage she'd tell me when I came in that I did fine and looked lovely.

One day I took her with me when I went to spend the morning under the

skylight. She watched each pose eagerly with a radiant smile, and as each was finished gallantly responded with her little phrase. The photographer was one of the "glum" sort, but he had a sense of humor, and he finally said to my dear old enthusiast:—"You'd do for a photographer, but you ought to begin your song and dance before the plate is exposed."

PROGRESS OF CARBON PRINTING IN AMERICA.

BY A. M. MARTON.

A GREAT deal has been written of late, to encourage the professional, as well as amateur photographer, to make use of the superior advantages offered by the modern methods of carbon printing, to improve the artistic qualities, as well as permanency of his work; and as a means by which to uplift the standard of his profession to a higher place among the arts; where it justly belongs.

The supremacy and great capabilities of the modern carbon process, and its adaptability to the most varied requirements of our present day photography, have been amply demonstrated by men of high professional standing everywhere, which ought to be a sufficient recommendation, to induce every progressive photographer in the country to at once adopt this beautiful process for at least their better class of work.

It is, indeed, gratifying to note the progress made in carbon printing within the past year, and the encouragement offered to those who are striving to better and improve the methods that yet appear difficult to the ordinary worker.

In Europe, every new invention—every improvement is applauded by the press; which, like a pat on the shoulder by a good friend, encourages and gives new impulse to further efforts in improving this valuable process.

Perhaps in no other country has carbon printing made such rapid progress as in America.

The great artistic beauty, and indisputable permanency of carbon pictures especially, appeals with irresistible force to every honest and upright photographer who has the good of his profession at heart.

If we look back over the work of our leading professionals of to-day, we find invariably that nearly all the work they stake their reputation on, is invariably printed in carbon. It is also a notable fact, that nearly all the work made for permanent exhibits, salons, art galleries and pictures intended for historical purposes, are printed in carbon. For the latter, especially, the indisputable permanency of carbon pictures, is a matter of inestimable value, and every photographer who is entrusted with the making of pictures that are to be handed down to future generations as historic mementos of past events, should, by all means, print them in carbon.

I was never impressed with the truth and great importance of this fact, as I was when I recently called on the secretary of an historical society, to show him the great value of carbon pictures for historical purposes. When I compared my carbon pictures with the yellow and faded pictures on the walls, and explained their merits, as to permanency, he at once recognized the truth of my assertions, and was profuse in acknowledging the same; and promised that henceforth all the work that is done for the society must be printed in carbon.

For a number of years past, I have come in contact with a great many professionals, as well as advanced amateur, photographers, which gave me an opportunity to observe the growing interest,

and the increasing numbers in the ranks of carbon printers in this country.

A few years ago there were perhaps a dozen, all told; and thousands of photographers who had never seen a carbon picture or knew the first principle of the process. To-day there are at least a thousand, and their number is fast increasing, a fact to which I can testify with a long list of names, including some of the most prominent professionals in the country.

The advantages and supremacy of the modern carbon process, in its present state of perfection, are now universally recognized by the profession, the world over; and American influence has also proven itself to be a great factor, even in the progress of the world's photography. A fact which is evinced by the great demand from abroad for our books, covering the newest methods in carbon photography. The most gratifying results, however, are shown by our own professionals. Every day the mails contain letters from photographers who have recently taken up the carbon process, and who express their great pleasure and delight at the results they have obtained, after a short acquaintance with the process.

At the present writing, I have before me, a picture of an old man, a most exquisite piece of work in sepia, and one that would do credit to the best professional carbon printer in the country. It was sent to me by a young man who, three months ago, knew nothing whatever about the process. In his letter he says: "I am not conceited enough to make any great pretentions as a carbon printer; I merely want to show you where I am at, and express my great pleasure and delight at the results I have obtained in the few months I have attempted to do my own carbon printing."

A Southern photographer writes: "I wish to thank you for being so persistent in urging me to take up the carbon process. I had never dreamed that such grand artistic work could be produced by such simple means, and I am very sorry now, that I did not begin sooner. Many of the fine pictures I have made within the past year, I am convinced, would have been greatly improved; and I would rest assured that they were absolutely permanent."

A leading professional from Iowa writes: "It seems almost foolish for a man to get stuck on his own work; but I must confess, since I have taken to carbon printing, I spend more time in admiring my own work, than I can really afford. There is something so extremely fascinating about these pictures, that one will study and admire, and drink in the beauty of this work, until he is entirely oblivious of himself. Such depth and richness of tone, and such exquisite rendering of values, even to the smallest details, certainly cannot be equaled by any other process.

I am so charmed with this beautiful work, that I want to tell you, that if I never sold a single carbon picture, I would consider the pleasure and great satisfaction I have derived therefrom, the greatest compensation, for the time and money I have spent, in accomplishing these beautiful results."

I give the above to show the enthusiasm and spirit, with which the American photographer, when his interest is awakened, enters upon a field of photography comparatively new to him, and conquers every difficulty with a zeal, peculiar to him. In another year I hope to see an increase of several thousand more, and then the time is not far distant when every photographer in the country will understand the carbon process.

UNDEREXPOSED bromide prints can sometimes be saved by partially developing in a dilute developer and then flooding with a strong undiluted solution.

FINE pumice-stone powder applied with the palm of the hand to bromide prints will prepare the surface for working on with chalks or stump.

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The lists of the Employment Bureau are sent only to members and associate members of the Society.

49—OPERATOR. Married. Salary, $20. 10 years' experience. Any place.

50—PRINTER, all grades of paper. Age, 45 Salary, $20 or $22. Good references.

51—PLATE PRINTER. All branches, except retouching. Age, 30; single. Salary, $15 or $20.

52—ALL-AROUND MAN. Age, 25. Salary from $12 up. Prefers Wisconsin or West.

53—OPERATOR AND RETOUCHER. Age, 29; married. Salary, $25. Prefers West or South.

54—FIRST-CLASS OPERATOR; also Crayon, Pastel. Speaks English, French, Spanish. Used to fine trade. $25. Prefers New York, Boston or Philadelphia.

55—PRINTER. All around man; salary, $15.00; age, 31; anywhere east of Miss. River.

56—ASSIS'T OPERATOR. General workman; prefers Ontario, New York or Michigan; salary, $8 or $10; age 19 years.

57—RETOUCHER. All around man; age, 19; single; salary reasonable.

58—MANAGER. All branches; age, 28; married; salary, in small city, $20 to $25; salary in big city, $35 or $40.

59—RECEPTIONIST. Lady; age, 29 years; also asst. in all branches, except retouching; salary, $18.

61—PRINTER. High grade workman; except retouching.

62—CRACKERJACK PLATINUM PRINTER; salary, $20; age, 39; single.

63—LADY PLATINUM PRINTER; Age, 20; single; salary, $12; finishing and reception room work; good references.

64—RETOUCHER. Proficient in all branches; age, 29; single; salary, $15 to $20.

65—PRINTER AND FINISHER. Age, 20; single; salary, $10; prefers Ontario.

66—PRINTER AND OPERATOR; 27; single; 8 years' experience; sober; $15.

To the Members of the Professional Photographers' Society of New York:

At the last meeting of the Society the following resolution was adopted:

"Be it resolved that each member of the Professional Photographers' Society of New York be requested to send to the next annual meeting, one photograph which he considers one of his best productions of the year, same to be hung or exhibited at said meeting place, 'and every man's picture to be hung on a line with every other man's picture,' and be it resolved that no other conditions whatever be added hereto."

Of course *you* are going to send a picture.

The definite instructions in the resolution are that the pictures must be hung on one line, and for that reason the Executive Committee *must* know how many pictures are coming, in order to arrange for a suitable room for their display.

To that end you are urged to co-operate with the Executive Committee by filling out the enclosed postal card and mailing it at once.

Cordially yours,

PIRIE MACDONALD, Pres. '07.

P. S.—Don't forget to use the Free Employment Bureau.

Please mention WILSON'S MAGAZINE

TRADE NOTES.

SALON PICTURES. Owing to the mistaken policy of someone connected with a new printing paper, a report was circulated through the local press at Niagara giving the impression that the Salon pictures were graded and that there was a "first" which had been awarded to a print on this particular paper.

Needless to say the Salon pictures were awarded an honor of equal value, no one print taking precedence. It is an interesting fact that out of the twenty-five pictures selected for Salon honors no less than thirteen were made on the famous Angelo Sepia Platinum. In the face of such a statement, comment on the good qualities of this paper would be superfluous.

If further evidence of the popularity of this paper was needed we might draw attention to the fact that at the New England Convention, held at Boston, out of the eighty pictures hung no less than forty-four were made on Angelo Sepia Platinum—the paper you are hearing about.

CURTIS AND CAMERON, makers of the justly celebrated "Copley Prints," have decided to place their famous sepia paper on the market under the name of Harcourt Sepia—in two grades, smooth and medium rough. Additional weights and grades, in grey as well as sepia are to be offered from time to time. Harcourt Sepia is for use with a cold solution and a plain oxalate bath. No sepia solution is necessary.

We advise our readers to write to Curtis & Cameron, 96 Pierce Building, Boston, for a free sample and price list.

DAY'S DIAMOND PASTE is an ideal paste for the photographer. It is pure white. Keeps indefinitely and absolutely neutral. It sticks. This we know by daily use.

The paste is put up in jars, collapsible tubes and pails. For the photographer's use the six and twelve pound self-closing pails will be found the most convenient and economical.

The Diamond Paste Co., of 70 Hamilton Street, Albany, N. Y., will be glad to send a sample on request.

"DAY LIGHT ALL THE WAY" describes in a few words the new Ingento Automatic Developing Tank recently put on the market by Burke & James, of Chicago.

Tank development as a reliable and time-saving method of developing plates is becoming more popular every day. The equipment advertised by Burke & James elsewhere in this issue is worth investigating.

ARISTO SEPIA CARBON is the name of a new paper put out by the American Aristotype Co. Since the introduction of the Aristo Gold post cards, which are such a pronounced success, the simplicity of manipulation and beauty of results have led many photographers to ask the American Aristotype Co. to place this material on the marekt in cut sizes, for portrait and view work.

To meet this demand the Company have marketed the paper under the name of Aristo Carbon Sepia—their announcement will be found on the back cover of this issue. We have tried samples of the paper and were struck with the extreme simplicity of manipulation and the beautiful tone and finish of the resulting prints. Rich carbon sepia tones are obtained after washing, and fixing in a plain hypo bath. After washing in a bath of water and common table salt purple tones are obtained.

Aristo Carbon Sepia is all its name implies —Aristo quality of stock and materials, permanency, a rich carbon surface with pure sepia tones. It is a quick printer and adapted to all classes of negatives. The American Aristotype Co., Jamestown, N. J., or your dealer will be glad to furnish particulars and prices.

FOR DULL DAYS. The Imperial S. S. Plate. a good plate for all seasons, is an especially useful plate at this time of the year when the sun gets in his shortest working days. With a speed of 300 Hurter & Driffield, it has a very high efficiency under trying conditions.

We used some of these plates during the summer, at the seashore and in the pine woods of New Jersey and secured very fine results. The plates have great latitude—the "orthochrome" giving a very true rendering in black and white of the relative values of the blues, greens and yellows. They are good plates for either professional or amateur. G. Gennert, New York, imports and carries a full line.

THE KALAMAZOO SHUTTER CO. wish to advise their customers and friends that U. S. Letters Patent were allowed on Root's "Silento" shutter October 2, 1906, and that they have nothing to fear from the other manufacturers' insinuations of infringements and injunctions, etc.

THE CRAMER DRY PLATE CO. advise us that out of the twenty-five Salon pictures at the National Convention no less than thirteen were made on Cramer plates. Thirteen was surely the lucky number at Niagara Falls.

EDITOR'S TABLE.

PHOTOGRAMS OF THE YEAR 1906. Typical photographic pictures of the year reproduced and criticised. Compiled by the staff of *The Photogram*, London. 170 pages, 112 illustrations, with three-color frontispiece. Paper covers, $1; cloth, $1.50; postpaid. Tennant and Ward, New York.

Unlike other year books, *Photograms of the Year* shows things done instead of how to do them. This is a vital difference and probably explains the lively interest awakened by the appearance of this well-known annual year after year. Even the most enthusiastic worker in photography may be forgiven a feeling of weariness when there is a question of reading a few hundred pages more of how to do this or that, "with working formulæ, etc." But in *Photograms of the Year* the photographic worker has a book of pure joy.

Seriously the volume comprises more than 100 representative examples of photography chosen from the best work of the year in all branches of pictorial effort. In many cases the engravers worked from the prints sent to the great exhibitions; in other instances the prints were especially made and sent to the editors for the book. Accompanying the pictures we have a little series of critiques in which the workers of the various schools and their work are discussed with interesting detail. Putting the pictures and the text together we have a volume of remarkable interest. On the pictorial side we have reproductions of the latest work of F. Benedict Herzog, A. Horsley Hinton, F. J. Mortimer, Pierre Dubreul, R. Duhrkoop, Alfred Stieglitz, Alex. Keighley, Mrs. Kasebier, F. Toda, Robert Demachy, Dr. C. F. Grindrod, Charles Job, R. Eickemeyer, Paul Pichier, Pirie MacDonald, Arthur Hewitt, Major Puyo, O. V. Lange, Joseph Byron, F. H. Evans, J. Craig Annan, Percy Lewis, Walter Barnett, M. Janvier, A. L. Coburn, J. C. Strauss, E. Steichen, Dudley Hoyt, and many others. In the text portion we have a careful review of the pictures shown at the London Salon and the exhibition of the Royal Photographic Society; "Artistic Progress in France," written by R. Demachy; "Pictorial Photography in America," by Roland Rood, with an account of the "Western Workers," by Fayette J. Clute; "Notes from Canada," by H. Mortimer Lamb; and from "Australia," by A. H. Griffiths; the "Year's Photography in Spain," by H. Mendez Leon, with a "Retrospect of the Work of the Year," by the Editor. Altogether it would be difficult to imagine a more satisfactory summing up of what has been done in pictorial photography during the year than is available at a nominal price in *Photograms of the Year* 1906. Every reader at all interested in the making of pictures by photography should get the book.

ALFRED STIEGLITZ announces that the second series of exhibitions will begin November 1 at the Little galleries, New York. The opening exhibition is devoted to the work of members of the Photo Secession, and will be followed by monthly exhibitions of American and foreign work.

The first series held last winter was well attended and enjoyed by all who saw the exhibitions. Any of our readers visiting New York should make a point of calling at 291 Fifth Avenue to see the work on view. The admission is free on presentation of business card.

"THE Metropolitan Section of the Professional Photographers' Society of New York, Mr. E. B. Core, President, held its first meeting since the summer at Milton Waide's Metropolitan School of Photography, New York City, Tuesday evening, Oct. 9th. Following the usual custom of this body, the meeting was full of business discussions interspersed with social 'get togetherism.' Experiences of Messrs. MacDonald, Byron and Falk, during the summer vacations in Europe, were interesting diversions, and altogether the meeting was one of the Section's best."

WE would draw the attention of our readers and subscribers to the very special offer made in regard to subscriptions for 1907 and advertised in these pages. This is a very special offer and cannot be continued indefinitely. Prompt action is advised. "The American Annual" and "Photograms of the Year" are both exceptionally good volumes this year and either of them will make an attractive and valuable premium. They are described in detail elsewhere in this issue.

FROM Mr. S. H. Lifshey, of Brooklyn, we have received a handsome souvenir of the 1906 Convention. It is entitled "A Collection of Good Fellows' Signatures, at the Niagara Falls Convention," and is a choice collection of autograph of photographic celebrities surmounted by a charming little view of the Falls.

THROUGH an oversight the article on "Ethical Deportment" appeared in the October number without the writer's name properly credited. The article was written by W. N. Danvers.

We take this opportunity of assuring Mr. Danvers that the omission was unintentional, a slip in proofreading for which we apologize.

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DAVID WARFIELD, AS "THE MUSIC MASTER."

By B. J. Falk, New York.

WILSON'S PHOTOGRAPHIC MAGAZINE.

FOUNDED BY EDWARD L. WILSON.
L. W. WILSON, EDITOR.

VOL. XLIII. DECEMBER, 1906. No. 600

AVERAGE PORTRAITURE.

BY THE EDITOR.

WHERE does professional portraiture stand at the present day? At once there comes to mind many of the famous names in the profession—men who make portraits that challenge attention, do justice to the sitter and go far to answer the question, "Is photography art?"

It is not this sort of portraiture that we are concerned about. We mean the everyday portraits that are made for the everyday man.

A short time ago a friend of ours brought home some proofs of pictures he had been sitting for. They were passed round and commented on by a circle of friends, and the comments were interesting, though far from complimentary.

The studio responsible for the portraits is one of the best known and most representative studios in New York.

The general comment was that they were good as photographs but mighty poor as likenesses, and if the photographer could not get somewhere nearer a likeness of his average customer they would not care to spend time and money on portraits.

A pretty strong commentary on photography in 1906—an art which is particularly *the* art of reproduction, of portrayal, of portraiture.

We could have told our friends of half a dozen photographers within a mile of where we sat who could make portraits they would be proud to have owned, but not being millionaires or celebrities, the prices would have been out of the question; three, four and five dollars per print being somewhat above the ordinary man's ideas of photographs to give away to friends.

The photographer who photographed our friend posed him in a high-backed, much carved and decorated chair. The general pose was stiff and formal, the head was posed in a manner quite foreign to the everyday manner of the man.

This was pointed out to the operator at the time, but he was evidently more anxious to get through with the sitting than to make a satisfactory portrait.

The result was that we were too vividly reminded of the "family album" of old days, with the awe-struck and awe-inspiring family portraits familiar in the days of our youth.

There was no connection between these portraits and the magnificent work we have seen at convention exhibitions and in the portfolios of many of our leading workers.

The remedy is obvious. The photographer must get down to bed-rock principles—must get down to making likenesses.

A mere map-like reproduction of a

man's features is not enough. Man is made up of body, soul and spirit. We are not speaking of tailors' dummies. The photographer must get more than the physical man. He must get the characteristics of his subject.

Every man to his humor. Some are cheerful, some or melancholy, some are active, others indolent. Some are generous and others are mean.

The photographer who knows his business will secure a likeness of his sitter, bringing out the best that is in him. Accentuating his best points and diffusing the bad ones.

Even the worst of us have some good points, and the mean man is not altogether mean. Find the good side of his nature and enlarge upon it. You will please him and his friends.

Study your subject. Do not handle him as if he were a lay figure. Arouse and keep his interest. Make him forget that he has come to your studio to spend ten or fifteen dollars on photographs for his friends.

If you succeed in this you are well on the way towards securing a likeness that he and his friends will be glad to have.

PICTORIAL PHOTOGRAPHY IN AMERICA.

BY ROLAND ROOD.

THE following interesting and appreciative essay from the pen of Roland Rood is reprinted from "Photograms of the Year 1906": Tennant & Ward, New York: Publishers. The photographer desiring to infuse more of the pictorial into his portraiture would do well to study this excellent annual of reproductions.

In view of the interest focussing on a "National Academy" idea the last paragraph of this essay is especially interesting.—ED. W. P. M.

To at all understand the meaning of the events which have taken place in the world of American pictorial photography during the past year the reader must realize that the great and primary struggle of our pictorialists is not the mastering of their medium—that has been accomplished—but the winning of the recognition of the painters. It is around this intense desire to be officially called artist that all their actions circle. The creation of the Salon Club the year before last had to a considerable extent this motive; and one of the important events during the past year, namely, the opening of the Photo-Secession Galleries at New York was only another evidence of the determination "to prove their case" to the painters.

I will begin my review with the American Salon, as being the more democratic, and therefore the more American organization. When the Salon Club was first formed and the jury of painters (composed of the most notable in the land) saw the photographs they were to judge, they immediately quibbled over their non-photographic and painter-like appearance and asked whether they were to judge them as *photographs* or as *paintings*, expressing their willingness to do either. As the photographers did not seem to know what they wanted to be, the painters decided and judged them as "photographs," ruthlessly throwing out everything in which they discovered, or thought they discovered, the evidence of hand-work. Their action aroused much adverse criticism, so I took it upon myself to see them personally and determine what was in their minds, and, as upon their judgment, whether right or wrong, may to a large extent depend the direction photography will take in this country, I submit for the first time the following digest of their views.

Nature is composed of the beautiful,

the commonplace, and the ugly; and he who has the insight to recognize the one from the other, and the cunning to separate and transfix only the beautiful is artist. The lens being soulless, indiscriminately dumps on to the sensitized photographic plates the beauties as well as the dross; the dirt as well as the jewels; the chaff and the wheat alike. And even when the photographer has used the rarest taste in choosing and arranging his motif, the chances are ninety-nine out of a hundred that mixed with the many beauties collected on the negative is much dross, and that until this dross has been eliminated either from the negative, or the print, the result will not be a complete work of art. The photographer intelligently begins this elimination by the choice of the right lens, plate, focus, exposure and development—all of which selections imply artistic judgment—but when he gets so far he either appears to be hampered by his morals and traditions and refuses to do what is left with his hands, or, when he has done it with his hands and really produced a work of art he appears to be conscience stricken and swears the lens did it. And finally, that until the photographers have passed through this amateur stage of undigested art-philosophy and maidenly squeamishness they need not be taken very seriously.

This attitude of the painters may seem a little disconcerting at first sight, but in truth it is to the contrary, for in America, when attention has once been awakened fifty per cent. is done—but enough of this introductory explanation.

The American Salon, this year as last, toured the States, attracting even more notice than before, and in several of the cities the attendance was large. It was slightly humiliating to the American workers, but showed the sincerity of the jury, that the chief prizes went to Europeans, Mrs. G. A. Barton being awarded the first prize for *The Mother's Kiss,* and the 1st, 2nd, and 3rd honorable mentions going respectively to Guido Rey, Alfredo Ornamo and Wm. Clayden, the minor awards being adjudged to the Americans: Louis Fleckenstein, F. H. Pratt, Jas. E. Underhill and Geo. T. Power. Mrs. Barton's eight pictures were admired far and wide and a lesson to all. Curtis Bell exhibited a portrait of Henry W. Ranger—one of the best in the show—and also several landscapes. Rudolf Eickemeyer, Jr., was represented by his customary work, but it may be of interest to the reader to learn that Eickemeyer, besides being one of our foremost landscapists, is also one of our foremost portraitists. When a few years ago a prominent publishing house issued an addition *de luxe* of portraits of one hundred of the most beautiful women of the American *beau monde,* Eickemeyer was chosen to make a large proportion of the photographs. Unfortunately, none of these are obtainable for reproduction, but the girl with the violin (repro.) will give an idea of his ability. H. Hendrickson, a new man, showed a number of photographs which were singularly interesting, for in his operation of separating "the chaff from the wheat" he retained so much of that class of truth which only the lens can give—see the *White Horse* (repro.). The sisters Parish had a number of delicate and exquisitely toned portraits and pictures (repro.), and Miss Virginia Prall did her sex honor with a series of portraits which were fine character studies and at the same time poems. Certainly the American women are taking their places in the foremost rank, especially in portraiture. Photographs by Vivian Burnett, Louis Fleckenstein, F. H. Pratt, R. L. Sleeth, Jr., and James E. Underhill are also worth mentioning, and Wm. H. Zerbe's work ranks him along with the American pictorial poets.

What I can particularly commend the Salon for is its sanity. There was little of that purism, eccentricity and decadence which characterizes the Secession just as much as does its fine work. The wish-wash school was not in evidence; and this I attribute to the fact that the photographs passed before a jury of men

whose life-long labor was the study of art, and not before a body of youthful art-students and amateurs, who, however proficient they may be in judging of the methods of production (the very qualities, by the way, the photographers do not want to be judged by), are to a considerable extent incapable of deciding what is art and what is affectation.

The Photo-Secession movements, were also very important. The opening of their Little Galleries at New York, already alluded to, was a departure from old lines. Three small rooms centrally and fashionably located were hung with gray burlap and generally fitted up à la Whistler. Through the whole winter and spring one exhibition followed the other, about two weeks being the time given to each. The season opened with a general exhibition of a hundred examples by members of the Secession. There were several newcomers, among them Mrs. Jeanne E. Bennett, who certainly held her own in the new surroundings. Like most of her sex, her work was sane—the insanities appear to be among the men—and her pictures stood out from the rest, owing to their unusual combination of modelling and atmosphere;—modelling is not the strongest point of the Secession. In addition to these qualities a feeling of humanity and kindness in every tone and line gave her work a rare charm. Among the newcomers might also be mentioned Alfred Stieglitz, who, in spite of his tremendous labors as editor and organizer had found the time to produce some half dozen new pictures.

After the general show followed special exhibits by individual members, and French, English, German and Viennese work. The French gum prints by Bremard, Besson, Damachy, Grimprel, Hachette, Laguarde, Renee le Begue and Puyo elicited both interest and amusements,—photographers could not decide whether they were photographs or hand-paintings, and showed only too plainly by their comments that, as the painter jury for the Salon had said, "their morals interfered with their æsthetic judgment."

The gums by Henneberg, Kuhn, Watzek and the Hofmeisters, which followed some time after the French exhibit, were much more appreciated, but unfortunately came a little too late in the season and were not seen by many.

The English show consisted of photographs by D. O. Hill, J. Craig Annan and Fred H. Evans. The Hills were, of course, such productions as had never been seen in this country, and it was generally frankly admitted were better than anything of their kind ever produced here. Annan did not excite much enthusiasm, and Evans fell dead flat except among the architects. Now to show why Evans and Annan did not receive their meed of appreciation, and also to open the way to a fair understanding of the basis of art judgment in this country and the consequent relative positions our own photographers hold in our own estimation, it will be necessary for me to digress to draw a sketch of the character of the American people.

It is said by Continentalists that we Americans are always thinking of the dollar, to which it might be replied that the French are always economizing the sous. But it is not true that we prize the dollar; our calculations are made on the basis of thousand dollar units. Nor does this statement express us—it is not the coin that we strive for, but success "in the game." To "win out" is the object of every American, and around this central characteristic can be constructed all our others. We are not serious; we look upon life as an opportunity given us where we can "play the game," and our dollars are merely counters which tell us whether we are losing or winning. And when we lose, and our chips and wealth and houses and cities are swept away by fire and earthquake we only laugh, it is but a part of the game,—the next deal may serve us a better hand. It's all the game, we're all in it, day and night, and if we find no moments for serious thought, "what's the odds? Ideas are

cheap,—we can import them by the dozen from Europe."

Bearing this playful character in mind it can now easily be understood that Annan's exhibition of photographs at the Little Galleries should have failed to awaken much interest, for each photograph was an individual effort in a different direction, thus depriving the whole group of that psychological ensemble which is always so effective in playing on the feelings of an unthinking audience. And the Evans' architectural series fell flat because the work was so perfectly finished, and through its lack of exaggeration failed to appeal to the emotions: it was too technical—the audience that came wanted to be amused and not instructed.

The Käsebier and Clarence White exhibition was much more popular, the unity of their work, Mrs. Käsebier's strong portrayal of character, and White's incisive poetical feeling produced the proper psychological contact with the public.

The Potrait of *Josephine* (repro.) is an excellent example of what Mrs. Käsebier is doing now, and in its repose and composition as good as a good old master. The hand, of course, is too large; but from some recent investigations I have been conducting it would appear that binocular foreshortening, which is a purely psychological phenomenon, differs in different individuals, and Titian for example would sooner have endorsed Mrs. Käsebier's than much of what we to-day call correct foreshortening.

The man of all Americans, however, who best understands the American art-public and how to touch it in just the right spot is Steichen. His imitation of Rembrandt's scheme of illumination is a master-stroke, for Rembrandt is the old master who is the most popular and loved in this country; photographs of his work are everywhere; and the instant a Steichen is seen Rembrandt is suggested, and through a psycological law of association (which works as inevitably as does the law of gravity), is immediately read into the empty shadows. That this is so is easily seen, for the instant Steichen differentiates his shadows and at all defines —Rembrandt goes and so does the charm. At his exhibition of fifty photographs of the Little Galleries, to which four weeks instead of the usual two were given, I listened for hours to the comments of the many visitors, and the psychology of the show was amusingly apparent. Wherever there was an attempt at drawing in the shadows, and there was in one of the Rodins and in several of the others, they were adjudged as commonplace. Furthermore, the use of the empty shadow is one of the most powerful ways of producing what psychologists term a "pure perception," namely, a sensation to which there is no thought attached, a sensation which is only feeling. And this is just what the American public want;—to be made to feel, that's fun, but not to think. And the effect of these associations and feelings was much heightened by the shock of powerful contrasts of black and white. And finally the beautiful finish of the texture pleased extremely.

It is interesting to note that no painter of rank was at all illustrated. They unhesitatingly placed White, and many also Käsebier as higher. I cannot but class Steichen in the second rank, to which Europeans may answer that Steichen is considerably appreciated in Europe, to which I reply, "I believe it, we are Americanizing you."

The Secession and the Salon Club claim to represent practically all the good workers, but this is not strictly so, —apart from them are a more or less large number who are continually producing results of rare merit—F. Holland Day, F. R. Fraprie, Elias Goldensky (repro.), J. H. Garo, Histed, Hollinger, Dudley Hoyt (repro.), Pirie MacDonald, H. H. Pierce and Julius C. Strauss being among the number. The work of Strauss has a peculiar sociological interest, for although he is one of our most important commercial pho-

tographers, yet the portrait of *Miss MacD.* (repro.) shows the influence of painter conceptions just as much as does the work of many of the amateurs, and is not a studio arrangement, but an open air study.

Among the independent workers is F. Benedict Herzog, and although he has been in the field but a short time, his work has a peculiar interest. It is very ambitious, and consists principally in the production of friezes composed of large groups of romantic conceptions. In the combination of the sense of female beauty and arangement of drapery and classical line and composition Herzog is unexcelled in America. The *Banks of Lethe* (repro.) forms one of the six groups comprised in one of his friezes.

But to conclude. The day of the recognition of the photographers by the painters may not be so far off and depends much on their own conduct. They must, however, first drop their maidenly pose of virtue and admit that they too "fake" with their hands; they must be men, or the painters will have none of them. To attempt to accomplish anything by arousing the interest of the general public is futile. True, in a night there may spring up a craze for pictorial photography just as some years ago there did for etching—when every painter dropped his brush to scratch on copper—or as there did when a few years later we all went cycling mad and the streets became dangerous for horses. But an American craze dies in a day. No, the only solid recognition will be that of the painters; and it is for this reason that I said at the outset that I believed the tactics of the Salon Club would count so much in the end, for in its direct appeal to the jury of painters it will, and has already carried weight. And in bringing about this recognition Herzog may also become a most important factor, for it is not a thin impressionism, purism, or preciosity that our artists will recognize, but the fully matured work.

"CITRO-CHLORIDE CELLULOID FOR GAS-LIGHT PRINTING."

BY A. J. JARMAN.

THE use of celluloid in place of ivory for many purposes has been proposed and used in photography for a considerable time. The fact that sheet celluloid is made to imitate ivory in structure only proves that the manufacturers realized the value of such an imitation.

The manufacturers of photographic dry plates took advantage of this, and coated sheets of celluloid with a gelatine emulsion. This created sheets of ready prepared celluloid to be placed upon the market, and sent easily by mail. The emulsions used for this have been of the bromide class, except in the case described recently in "WILSON'S" by the writer of a printing-out celluloid. This gave quite a change to the material that has hitherto been of the development class, and will enable any photographer to prepare his own printing-out celluloid if he desires to do so, not only to prepare it in an experimental manner, but upon a moderate scale, both practically and successfully. One objection to the bromide celluloid has been the color. A perfect black and white deposit upon development is somewhat rare. The printing-out celluloid can be toned in platinum, and give some very fine changes in color, yet a pure jet black has not been obtained by this means. Pure blacks and whites are obtainable by development, if the emulsion employed is of the chloride class, instead of bromide of silver. As great rapidity is not desirable, the handling of the prepared celluloid can be placed in the hands of almost any one, to manipulate, without fear of spoiling the print. The preparation of

the emulsion too can be carried out by any person with using ordinary care. It must be understood that great cleanliness is absolutely necessary for success in emulsion making, many persons having failed for this simple reason.

These remarks apply not only to gelatine emulsions, they also apply to the preparation of collodion emulsions, too. Unless strict attention to cleanliness is carried into practice, it will be impossible to secure the best results. At the present day nearly every kind of material and chemical compounds are to be purchased ready made. In the earlier days of photography, nearly every photographer had to prepare much of the material used in his business, although the use of ready-made photographic material enables a large amount of work to be turned out, yet a large number of photographers made their fortunes, and became enabled to enjoy life in after years without constant daily toil, while to-day although the number of photographers has increased, it is not quite so apparent that as many make a fortune.

It can never be out of place to know how to prepare or make a something that may be of use to the photographer, and to know how to make a developing celluloid that will give rich blacks and whites, and be as permanent as it is possible to make a silver print. Whatever may be said about not wanting the prints to last too long, it will at all times prove to be of lasting benefit to any photographer who has a reputation to sustain for the public to know that the work turned out by such a house is reliable, and can be depended upon. The preparation of a citro-chloride emulsion must be carried out in the following manner. Obtain one or two sound stoneware jars, with lids of the same material, see that they are well cleaned out with hot water, then rinsed in cold water and drained. Prepare the emulsion in the following manner.

Distilled water	15 ounces
Hard gelatine (Heinrich's)...	3 ounces
Chloride of ammonium (C. P.).	142 grains

Cut the gelatine sheets up into shreds, and allow them to soak in the distilled water, and the chloride of ammonium, the above being placed in one of the clean half-gallon jars. After soaking for half an hour, place the jar, into a vessel of hot water, a large glazed saucepan will be just the thing. Allow the gelatinous mixture to become heated, and well stirred with a strip of clean glass (a strip of glass is better suited for stirring than a glass rod), allow the water around the jar to reach boiling point. As soon as the mixture has become well incorporated, allow it to reduce in temperature, which will be from 180 Fah. down to 130 Fah.; meantime make up the following solution:

Nitrate of silver.....	334 grains
Citric acid (powdered).....	40 grains
Distilled water	15 ounces

Make this mixture up in a glass flask, and add it a few drops at a time, to the gelatine mixture, under a ruby light, stirring the preparation vigorously with a glass strip; add the whole of the nitrate of silver solution in this way, and after well stirring, the jar may be set into a large pan of cold water until it has become quite cold. As soon as the mixture or emulsion has been formed, by the addition of the nitrate of silver solution, the lid must be put in place, and several folds of black paper tied over the top, so as to exclude all actinic light. It must be well understood that all the operations after the nitrate of silver has been added, must be conducted under a ruby light only; should any ray of actinic light strike the emulsion, fog would inevitably be the result.

As soon as the emulsion has become cold, it will be ready to wash, but if it is desired to let the emulsion stand for 10 or 12 hours, then one ounce of pure alcohol must be added and well stirred in after the nitrate of silver solution has been added. In either case, when the emulsion has become well set, it may be removed from the jar and placed into another jar of equal size nearly filled

with cold water. The block of emulsion must then be broken up into pieces about the size of a hen's egg, and each piece placed into a piece of clean cotton canvas with holes in it about an eighth of an inch square; good strong mosquito netting will answer. It must be folded, so as to increase the strength, and resist the strain of squeezing the emulsion through. The block of emulsion is held by one hand while in the netting, and squeezed through by twisting the cloth, and allowing the shreds of emulsion to drop into another jar of clean, cold water. This is repeated until all the emulsion has been pressed through the cloth.

The same cloth is wrung out after rinsing it under the faucet, and folded so as to give four or more thicknesses and tied over the mouth of the jar. This is now inverted so as to drain off the water from the emulsion, and then filled again with clear, cold water, and drained again for six or eight times, allowing a few minutes to elapse between each change of water. Finally, raise the emulsion by nearly filling the jar with distilled water; when after a ten minutes' soaking, the jar must be left in an inverted position for half an hour to one hour. This will enable all the excess of water to drain off, when the jar may be uncovered, and the shreds of emulsion shaken off the cloth into the jar, and the excess scraped from around the top of the jar, and mixed with the rest. The emulsion is now ready to be melted and filtered for coating the celluloid. The celluloid may be obtained from any large photo material stockhouse, or direct from the celluloid company—Washington Street, Washington Square, New York.

The sheets run twenty inches wide by fifty inches long, and cost from one dollar thirty-five cents up, according to thickness. A convenient size, for coating, will be 8x10 or 10x12; the celluloid must be cleaned by being washed well with cold water, then the surface to be coated must be wiped over with a tuft of absorbent cotton and warm water, then rinsed again under the faucet and suspended to dry, by hanging from one corner with a clean wooden chip. Do not allow any part of the back to rest against the edge of another shelf, if it does, there will be a mark, a sort of indentation, caused by the irregular drying; this alone would spoil the sheet after it had been coated with the sensitive emulsion. If larger pieces are to be coated, they can be readily done by placing pieces 16½ inches by 18 inches in a suitable wooden frame, that has been well coated with shellac varnish. The frame must be made in two parts, hinged with strong hinges at one end; these, too, must be well varnished, and at one corner of the top part of the frame, a slit must be cut, so as to pour off the excess of emulsion into the filter, to be used again in coating the next sheet. The sheet of celluloid must rest at its edges for about three-quarters of an inch upon thin strips of short india rubber, which are tacked upon the inside of the lower half of the frame, very easily, and the heads of the tacks coated with shellac varnish twice.

All these pieces of metal must be covered with shellac varnish, because if the emulsion should come in contact with the metal it would be instantly spoiled by the reduced iron from the tacks. This will not easily occur, the tacks being at the under part of the celluloid. The top half of the frame should have a sharp edge at the inside, projecting about a quarter of an inch down, so as to press the celluloid tight upon the rubber bedding and thus make a water tight joint. The emulsion can now be melted. The lid being replaced, the jar is stood in a saucepan of hot water as in making the emulsion, and the temperature raised until the emulsion has become well melted. The water around the jar must not be allowed to boil, only heated to 180 Fah. Now add pure alcohol, 1½ ounce.

Stir this into the emulsion the same as in making it up, with a clean glass strip. When mixed, filter through clean ab-

sorbent cotton, that has been pressed into a clean kerosene lamp chimney with a piece of folded cheesecloth tied over the small end; a retort stand, or a shelf with a hole cut in it, will form the support of the filter. Place a clean jug or pitcher beneath, which has previously been washed out with hot water, pour in the hot emulsion into the inverted lamp chimney. When filtering is complete, a clean porcelain tray may be used to contain the emulsion for coating the small pieces. The temperature of the emulsion must not exceed 120 Fah. If it is higher, there will be many bubbles found upon the surface which cannot be easily dispersed. Keep the temperature right by simply standing the tray containing the emulsion upon another tray containing hot water. As soon as the celluloid is coated by laying it down carefully upon the surface of the emulsion it must be quickly removed and drained from one corner by allowing that corner to touch the inside edge of the tray, then no bubbles will be found. Just as soon as it has been lifted and drained, reverse the position of the sheet, so as to even up the emulsion and lay it down upon a wet sheet of glass, slate or marble, to become set. When a number of sheets have been coated, they must be suspended in a warm closet free from dust to become dry. As soon as dry they can be packed face to face ready for use, being well wrapped in a damp proof paper and black paper to protect them. When the frame is used, the celluloid must be placed in there upon the lower half of the frame, then close down the top, and fix it with the hooks that have been provided at the sides and ends; two at each side and two at the end will answer. Having the celluloid so fixed, pour some filtered water upon the surface so as to wet it all over, drain this off, for about a minute, then pour on a pool of the warm emulsion. The celluloid will warp a bit for a moment; run the emulsion all over the surface by tilting the frame, then pour off the excess into the filter, drain slightly, reverse the position of the frame, so as to even up the coating; undo the hooks, lift the sheet of celluloid quickly and lay it down upon the cold, wet slab of slate or glass, to set. As soon as set, suspend it to dry the same as the small sheets. The pans after use must be well churned with warm water, and dried. Don't neglect this precaution, or trouble will follow. All excess of emulsion may be returned to the stone jar and kept a day or two for future use. Having now prepared the celluloid, the picture or pictures, may be made, by exposure and doubleprint. The developer here given answers well for the purpose. It may bear modification. The writer has found it to answer quite well, always using distilled water as the menstrum.

DEVELOPER.

Metol	20 grains
Hydrochloride	40 grains
Warm distilled water	15 ounces

Shake the mixture well, then add granulated sulphite of soda 140 grains. As soon as this is dissolved, add 17 ounces of cold water, and 120 grains of granulated carbonate of soda. Shake the mixture as soon as the carbonate has dissolved; add from 32 to 40 drops of a 10 per cent. solution of bromide of potassium. Do not add too much of this material; generally 32 drops answers the purpose. Now make up the fixing bath as follows:

Water	20 ounces
Hyposulphite of soda	4 ounces

Dissolve this, then add half an ounce of powdered alum in two ounces of water, place this into the hypo solution, and add half an ounce of acetic acid, No. 8.

A trial can now be made by taking a piece of the celluloid, cut say to 5x7, place it upon a negative in the ordinary printing frame and expose about eight inches from a gas flame, for 18 seconds—if the negative is one of the thin class—or more according to the density of the negative. Take the frame into the dark

room, pour a few ounces of the developer into a clean tray, slide in the exposed celluloid. In a very short time, perhaps sixteen to twenty seconds, the development will be complete. Remove the print, dip it into clean water, then into the fixing bath; fixing will take about ten minutes, when it can be removed, well washed for half an hour, and the surface wiped with a piece of soft absorbent cotton, then allowed to dry.

Upon removing the print from the fixing solution it will present a beautiful picture in black and white. If there is a trail of color in the whites, a drop or two of bromide solution will remedy this, added to the developer. Like all photographic material of this class, if too much bromide is used, there will be a greenish tendency in the print. Of course, the operator can attend to this, and fix his developer so as to gain a good color.

The developer may be varied, by using more hydrochlorin and a corresponding smaller amount of metol, and by increasing the quantity of metol and reducing the hydrochlorin the color will approach more of a blue black.

Whatever developer may be used, the prints will prove to be of a very acceptable character The celluloid prepared in this way can be used for enlarging upon if desired; fine enlargements can be made in this way, of a perfect black and white.

The color can be changed from black to sepia if desired. In doing this be sure that the print is well washed, to free it from every trace of hypo, and dry it down. As soon as dry, the following mixture must be made up:

BLEACH FOR CELLULOID.

Bichloride of mercury.....	120 grains
Bromide of potassium.....	120 grains
Water	32 ounces

When dissolved, filter from this into a clean tray, plunge the *dry* print into this, allow it to become quite bleached. Now wash the print well, *thoroughly* well for a quarter of an hour; if not washed well, the white will be apt to become yellow. As soon as washed, dip the print into the acid fixing bath used to fix the print. Immediately the color will change to a very rich brown, which, when washed and dried, gives a very agreeable brown. A further bleaching, washing, and passing through the fixing bath will give a brown of a lighter color, which corresponds with the bromide sulphurized prints upon paper. If ordinary 5x7 prints are small, they should be washed in a grooved hard rubber fixing box back to back. By this means, two dozen prints can be made and well washed by placing one hand over the top, pouring out the waste, and refilling; a dozen such changes will complete the washing. Sepia and black may be washed in this way together, without fear of injury.

For coloring the surface of these developed prints it is admirably suited or for working up in sepia or black and white by the artist and the air brush, there is every reason to believe that prints made in this way are as permanent as a silver print can be made.

HOW TO WORK UP ENLARGEMENTS.

A. LOCKETT.

THE working-up of enlargements for exhibition or pictorial purposes is, it goes without saying, illegitimate and unpermissible. Mr. Lockett, writing in *The Photographic Chronicle,* points out that there are many occasions, however, in work of a more practical and everyday kind when it may become not only allowable, but necessary. The average indoor portrait of a friend, who requires a good deal of retouching, and is not contented till he obtains the promise of

an enlargement, will provide a satisfactory instance of a case where the necessity for working-up is readily apparent. A few hints on how to improve and render such examples less inartistic than they otherwise may be will perhaps find favor with some.

To begin with, in probably nine cases out of ten the enlargement is sure to be vignetted, and a vignette under such circumstances rarely looks convincing unless it is softened and improved by what is called "stumping in." This is a comparatively simple operation. We require some fine pumice powder, some powdered blacklead of good quality, and a tube of black stumping chalk, to be obtained from the artists' colorman. First of all, we sprinkle pumice powder over the background of the enlargement, and, with the palm of the hand, rub it gently all over in a circular direction, then dust it off. The surface is now suitably prepared to take the stumping mixture, which is made as follows: Powdered blacklead is mixed with pumice powder in about equal proportions, until the color of the enlargement is exactly matched. If this is of a brownish tinge, a small amount of powdered stumping chalk must be added, till the color is satisfactory. The mixture must be well rubbed together, and finely powdered on a piece of notepaper. It may be made lighter or darker in shade by the addition of more or less pumice powder or blacklead, as the case may be. The middle finger of the right hand is dipped in the powder, when ready, and it is rubbed into the enlargement where required with a gentle, circular motion. Of course it needs to be done artistically, and with a sense of the fitness of things, or it may be far from an improvement. It is the rule to make the background darker against the light side of the face, and lighter against the shadow side. This has the effect of throwing the features into better relief. There is a good deal of scope for the exercise of individual taste in the introduction of cloud backgrounds and similar effects. These are done with the useful stumping mixture in the manner described. The edges of the vignette must be softened down by means of a piece of cotton-wool or washleather. It would be difficult to show by any reproduced illustrations how all this should be done. An examination of good work of the kind in professional windows and showcases will give the desired information in a practical and satisfactory manner.

If the original negative has been retouched at all the marks of the pencil will probably show disagreeably on the enlargement, and require working in. This may be done either with brush or crayon. The crayon method is perhaps more effective, and entails less work, but the brush will give finer and cleaner results and, moreover, does not betray its presence so much. The latter method is the one we will proceed to describe. We require a couple of sable brushes, Nos. 2 and 3, which should be selected for springiness and fineness of point. The colors required are mixed with water on a porcelain slab, and a small proportion of gum added, just sufficient to make the color dry as shiny as the surface of the enlargement; the latter may not, indeed, be necessary. The color of the enlargement must be exactly matched or the work will look very bad. For a black bromide, the required tint is generally obtained by a mixture of Indian ink and a little cobalt blue. If the black is inclined to brownness, the blue is omitted, and Indian ink alone is used. Sepia and other colors are readily enough matched with a little care. It should always be borne in mind that the colors will dry a shade darker and colder than they appear wet.

The first thing we shall proceed to do after stumping in the background is to clean up the face and remove any marks of retouching, unevenness, and spots. Very little color should be taken in the brush, and it must be applied lightly, and with extreme care in those places only where it is required. The method of taking out a spot consists of holding

the brush in an upright position and advancing it lightly and surely into the centre of the spot, taking care not to go over the margin, and to exactly match the density of the surrounding parts. This requires a little practice, but is soon managed. If the spot is large it will require doing by degrees, and perhaps some stippling-in or hatching. Stippling, it is perhaps hardly necessary to explain, consists of filling u a bare area or space by means of a succession of tiny dots. This is a matter that needs a little patience and care till the required density is gained. Hatching, which is necessary for working on and modelling the face, consists essentially of a series of strokes or curves, crossed at a suitable angle by another series. In the enlargement it must, of course, be done very lightly and minutely, being, in fact, rather felt than seen. The forehead should always be done first, any little roughness taken out, and a clean and smooth effect obtained by judicious filling in and hatching. It is important not to do too much; it will be far better to err in the other direction, if at all. The cheeks, nose, and chin should then be proceeded with in the order named. Some acquaintance should be gained with the anatomical structure of the face, if our work is not to be ridiculous, and the prominences and "bumps" where the high lights ought to appear studied with respect and caution. Then in cleaning up the face we shall be doing it in an intelligent and effective manner, avoiding the lights, giving emphasis to them by darkening the shadows, rounding an angularity here, smoothing a rough place there, till the final result is a pleasing improvement on the picture as it stood at first.

The shadows in the hair may be darkened; the lights, which will probably be too strong, may be toned down. It is important in this part to avoid any appearance of stringiness or wiriness. The work should be done broadly with restraint, and care taken that it is not overdone. A large brush is the most suitable for the hair, being less likely to give a wiry effect. The eyelashes may be touched up with advantage, but very little should be attempted here. The pupil of the eye may be darkened, and the little ring round the eyeball very delicately and daintily emphasized. The outline of the nostrils may be strengthened slightly by a few cautious touches. The lips may possibly be improved by darkening the dividing line in the middle, and filling in any unnecessary cracks and roughness.

The shadows on the coat or dress may be emphasized with good results, and any wooliness or spots touched out. Any little article of jewelry appearing in the enlargement should be given their full value, for the wearer is sure to be pleased thereby.

A useful and almost indispensable adjunct to our working-up outfit is a small surgeon's scalpel. By its aid we can readily remove black spots and blemishes, pick out some of the lights in white lace fichus and things of that description, or take away stray pieces of hair. In fact, this little instrument will be found invaluable. It should be kept sharp on an ordinary oilstone, without oil. The ink-eraser and india-rubber will also be found useful. Sometimes the surface of an enlargement will be noticed to repel the color; in that case rubbing lightly with the eraser will remove any surface greasiness. The eraser is also handy for picking out the high lights on the face, if necessary, and for inserting bright sparkles of light at the edges of the cloud backgrounds.

BROMIDE prints should be fixed for at least 10 minutes.

THE best fixing bath is hypo 4 oz., water, 20 oz.

PRINTS can be dried quickly after washing, by soaking in three changes of wood alcohol, blotting, and placing in current of warm air or before the fire.

A CLEAN fixing bath is a necessity for producing clean prints.

A NEW PROCESS OF COLOR PHOTOGRAPHY.

A NEW process for color photography has been brought out by Prof. Lippmann. In order to reproduce the colors of the object we must first have the sensitive plate keeping the trace of the differences which are found in the radiations coming from the same incident beam, thus analyzing the beam, and second, the incident light must afterward give the corresponding color effect. He proposes to use the principles of the prism, and this may give the desired solution. A photographic spectroscope is composed of a slit, prism, lens, and sensitive plate, and the light which falls on the plate is here separated into its component parts. It remains to show that the apparatus is reversible and that we can re-form the light which entered the slit. Suppose the plate to be developed and then put back in place. If red light had fallen on the slit, there would be a red image of the slit on the screen. Making a positive plate of the image we form as it were a second slit which corresponds to the first slit. We must now make the action reversible, and such is the case, for when we light the positive plate by white light, we have only the red light at the other end. Thus the red light of the first instance corresponds to the red of the second case. The same applies to other colors. When the positive plate is exposed to white light, the slit receives a light which has the same composition as what was given during the first exposure. When the positive plate is replaced by the negative, all the other colors now pass, and we receive the complementary color at the other end. Here the place which the color has in the spectrum is shown by an opaque line, and such a ray could not now fall on the slit. To resume, when the positive plate is put in place in the spectroscope, it only lets pass the light which fell during the first exposure of the plate. With the negative plate, we have the complementary.

To apply this principle to color photography, M. Lippmann devised the following apparatus. The slit is replaced by a closely-spaced set of narrow slits, the whole resembling a set of fine lines, ruled to 125 per inch. This screen is fixed at the opening of a photographic enlarging apparatus, carrying at the other end a plate-holder, while in the centre is a converging lens. In front of the lens is a small-angle prism with its edge parallel to the lines of the screen. The image to be reproduced is thrown on the screen. Then the plate is developed and the negative (or positive) put back in place. With the positive plate, when the latter receives white light at the back, we have the original image, with its natural colors, seen on the screen. Each line of the ruled screen acts like a spectroscope slit, and at a distance the eye does not see the separation, so that the image seems continuous. In the experiment, a spectrum was thus reproduced by means of the positive plate. A red and green glass screen was placed over the ruled screen, and it was reproduced again, and also with its complementary colors. The prism must have a small enough angle so that each spectrum has a smaller length than one space between the lines of the screen. As to the negative or positive plate, it appears like a series of white and black lines, but when examined by a glass we see the zones between the lines, corresponding to each small spectrum.—*Scientific American.*

PRINTS look darker in the yellow light of the dark room than in daylight when finished. This should be borne in mind, and development not stopped too soon.

SOME NOTES ON FACTORIAL DEVELOPMENT.

FACTORIAL development, although it may be described as the simplification of a more or less complex process, is not so "childishly" simple that one should adopt it blindly, or, rather that one should adopt the development factors which another's brains have ascertained to be correct. Mr. Watkins' figures *are* correct; that is to say, they give certain correct photographic results. But it may so happen that we wish a negative more dense than would be given by Mr. Watkins' figures; and if so, it only requires a very little thought to show that in order to achieve this result, we must make some alteration in our development factor. To put the matter in another form, if we want a thin negative in one case, a medium negative in another, and a dense negative in a third case, and if we use the same developer of the same strength for all these, we cannot expect to get the three different qualities of a negative if we say to ourselves that the factor for that particular developer is twelve, and proceed in each case to develop for twelve times the number of seconds that the images take to begin to appear. If we do so, we shall have three negatives of the same degree of density. It would be possible, of course, to effect some variety by changing the developer; but the better plan is to change the factor. Thus, if we know that twelve is the correct factor for producing a negative of medium density, and we wish an extra dense one, make the factor, say, fifteen. The exact alteration can be ascertained only by experience, but once ascertained it is known for all time. The same result may be arrived at in another way. If the time of development for producing a negative of medium density is four minutes, according to our factorial calculation, we can develop for four and one-half or five minutes to obtain a dense one. The latter method, however, will not be of so much assistance on another occasion when again another dense negative is wanted, at least, not unless the time for the medium negative is again four minutes. If it should happen to be five and one-half minutes, the following somewhat elaborate calculation must be made: —If a four minutes negative (that is, a negative which would be of medium density in four minutes) requires one extra minute for increased density, how much extra does a five and one-half minutes negative require? By increasing the factor, however, it does not matter whether the time for the medium negative would be four or five and one-half minutes, the factor for the dense one is fifteen, and the necessary calculation is easily made.

The development by factor of orthochromatic plates exposed through a yellow screen requires some modification of the system as applied to ordinary plates. With orthochromatic photography the more actinic lights acting on the plate are restrained so that they are brought into control, and made to come up as it were in harness with the less active lights. If we develop an ordinary plate and an orthochromatic plate (the latter having been exposed through a light filter) in the same dish and at the same time, we find, if the exposure in each case has been correct, that the sky portion of the ordinary plate appears earlier than the sky portion of the orthochromatic plate, and that in the former case these high lights appear a considerable time in advance of the rest of the negative; whereas in the case of the orthochromatic plate the landscape and sky appear almost simultaneously. The very intense rays of light in passing through the filter have been checked or toned down so that when they strike on the sensitive emulsion of the plate or

film they do so in correct relation, or more or less correct relation, to the other less active lights.

If, therefore, we have a development factor which is applicable to ordinary plates, and which, it must be remembered, is calculated by the time of the first appearance of *any* image on the plate, it means that the factor makes allowance for the fact that with ordinary plates the high lights flash up quickly, and the rest of the image follows more or less *longo intervallo*. When, therefore, we come to restrain the high lights by the use of specially prepared plates and light filters, it stands to reason that, as in this case also we calculate our time for development by the time which the first appearance of the image takes to show, we must have a shorter factor, or else our orthochromatic plate will be over-developed. The matter may be best explained by figures, which, however, are merely comparative. If the high lights on an ordinary plate take twenty seconds to begin to appear, and our development factor is twelve, we get twenty times twelve equals two hundred and forty seconds for our development. If, however, by restraining the more active lights, the high lights do not begin to appear on the orthochromatic plate until thirty seconds, we get thirty times twelve equals three hundred and sixty seconds for our development. The increased time of development in the latter case must be wrong unless we can say that the use of orthochromatic plates and screen restrains *all* lights. But we make no such assertion. It is only some of the rays which are held back, the rays in fact which, on an ordinary plate, mean over-developed portions of the film, portions which, if development were stopped to suit them, would leave other parts of the negative acted on by the rays of light which are slow, very much under-developed.

In orthochromatic photography, therefore, some modification of the factor correct for ordinary plates is necessary. Just how much modification, may be best ascertained by experiment.

A number of writers advocate the use of a developer with a factor of six or twelve, as the calculation of the time of development is thereby made easier. This is no doubt true enough, but whether or not the easier calculation will compensate for the change to a developer with which one is not familiar is a moot point. The calculation is not difficult with any factor; but perhaps in order that one may devote as much attention as possible to the actual development, and as little to arithmetic, it is better to avoid factors which have a fraction in them.

Sometimes, however, it may be a good thing to employ a developer because of its factor. In the case of under-exposed plates the image, of course, takes a longer time than usual to begin to appear, and this means that while we are watching for that appearance the plate is exposed to the lamp for a longer time than is desirable, having regard to the fact that orthochromatic and very rapid ordinary plates are not insensitive to prolonged exposure to red light. But if we use a developer with a high factor this objection is minimized. If the factor is twelve and the image does not begin to appear for sixty seconds (as may quite well be the case) our plate is exposed to the lamp-light for a full minute. This may do no harm if the lamp light is a "safe" one; but, on the other hand, it may do harm incalculable. Under the same conditions of under-exposure, however, the appearance of the image with a developer whose factor is sixty would probably be about twelve seconds, and the exposure to the lamp light would therefore be just one-fifth as long in the latter case as in the former. This is a decided advantage.

But, while advocating the use of a developer with a high factor with the view of lessening the time of exposure to the

lamp light, one should not omit to point out that there is a danger at all times in using such a developer. Unless the time of appearance of the image is very exactly noted, over-developed negatives will be the result. With a factor of sixty, a mistake of one second in noting the first appearance of the image means a mistake of 60 multiplied by 1, or 1 minute, in the time of development. And that minute may make all the difference in the quality of the negative. The same mistake with a factor of twelve only means a twelve seconds error in development, which is probably immaterial.

While, therefore, our watch with a second hand, if laid beside the lamp, may be sufficient to enable us to correctly calculate the time of development with a low factor developer, it is advisable with a high factor to use one of the dark-room clocks, which are put on the market primarily (well, primarily to sell, I suppose!) to prevent such errors in calculation being made.—*Amateur Photographer.*

METHODS AND FORMULÆ.

A New Filter Dye.—Almost all the yellow dyes which are used for making ortho screens or filters transmit some of the ultra-violet, which is obviously wrong. Others, such as auramine, transmit a band in the blue-violet at the limit of the violet end of the visible spectrum. This banded absorption means, of course, that a much deeper screen is required to obtain color reproduction in anything like correctness, because absolute correctness cannot under such conditions be obtained. This new dye, called "filter yellow K," has been prepared by Meister Lucius and Bruning, of Hoechst-on-Maine, and it gives complete absorption from the green right into the ultra-violet, to a point at which the glass of the lenses begins to absorb the rays.

Painting Prints With Oils.—At a meeting of one of the German Societies a member suggested the following method of painting prints with oil colors, which might be useful for enlargements. Ordinary oil colors should be diluted with turpentine till they are quite thin fluids, and they should be applied to the prints with a tuft of cotton-wool and not a brush, and so thinly that the shadows of the prints can be seen through. Delicate details, such as the eyes, &c., should be put in with tissue-paper stumps, and the colors gradually blended by rubbing with a dry stump. An almost easier process is to use the Raffaelli solid oil-color pencils, which may be obtained from most artists' colormen now. Such processes are, however, not suitable for small work.—*Photographic News.*

The Camera and the Cradle.—A Poplar baby was being photographed with the family cat in his grasp when the animal bolted, bringing the child down to the floor with such a bang that he died soon after. At the inquest the coroner referred to the old superstition that it is unlucky to have a child photographed before it is twelve months old. Certainly the proceeding had a fatal termination in this case, but there are few proud fathers who do not usually succeed in getting "the best baby in the world" photographed at least once before it is twelve months old. What a world full of unlucky individuals the modern generation must be if this up-to-date "old" superstition has any foundation.

THERE is a growing demand for the photographic advertisement. Press photographers should take advantage of all likely subjects, and submit prints to well-known advertisers. Children and animals are favorites for advertising pictures.

Dr. Heids Nachfolger,
Vienna.

From Photographischen
Korrespondenz.

Ellen du Bois-Reymond, Potsdam, Germany.

From Photographische Rundschau.

Ernest Muller, Dresden.

From Das Atelier.

Theo. Hilsdorf, Munich, Germany.

Knebel Jeno, Szombathely, Germany.

From Das Atelier.

From Das Atelier.

Helena Goude, s' Gravenhage, Germany.

From Das Atelier.

F. Wolleschak, Naumburg, Germany.

From Eder's Year Book for 1906.

Hanni Schwarz, Berlin.

Aug. Adler, Memmingen, Germany.

From Photographische Rundschau.

Dr. Heids Nachfolger, Vienna.

From Photographischen Korrespondenz.

Eben Walsleben, Breslau, Germany.

From Das Atelier.

THE MAN WITHOUT A POSE: S. L. STEIN.

BY SIDNEY ALLAN.

LONG before it was ever my good fortune to visit Milwaukee, I always associated the name of the city with that of Stein. No wonder that when I finally drifted to the shores of Lake Michigan the thought of making a call at the Stein studio was uppermost in my mind. But even if I had forgotten all about the existence of such a place, I would have been most forcibly reminded of it, for the first thing I saw when I stepped to the hotel window was the name of Stein on a sign of gigantic lettering on a roof below.

Why, this man knows how to assert himself, I thought, and the first impression was strengthened when, a few minutes later, I passed his show window (after all the best vehicle of advertising one's photographic wares) with a simple but very effective display of a dozen or more large sepia prints.

As we all know Stein has photographically everything very much his own way in Milwaukee, and for that matter in the whole State of Wisconsin. His local reputation is an exceedingly strong and stable one. In his special domain he reigns supreme. This is the more astonishing when one meets him personally. He has neither the magnetic personality of a Strauss nor the fastidious make up of a MacDonald. He is modesty itself, though always on his dignity. He is one of those men that could join or leave a party without much notice. The eyes of the crowd would not be riveted upon him. But there is another side to this man's character, as everybody knows who is more intimately acquainted with him. Quiet and unobtrusive as he seems to be, he is a veritable personification of energy and aggressiveness. This latter quality has often been criticised, but I rather like him for it. He has the courage to assert himself, not by any pose like so many others do, but mentally by sound argument, and as long as he feels that he is in the right he sticks to his convictions with Teutonic pertinacity. I wish our photographic world had more spokesmen like him; it might move along less joltingly than it does at times. Stein, as contrary as he may be, has always the interests of the profession at heart, and that is the principal and exceptional charm of his personality.

I deliberately used the word Teutonic in reference to Stein, as it explains to me much of his peculiar faculties and accomplishments. No man can escape the influence of racial traits. And in the same way as Goldensky reflects the Russian Hebrew, Pierce the sturdy self-made New Englander, and Garo the exotic Oriental, Stein personifies in more than one way Teutonic propensities. As I strayed through the various departments of his studio I was struck by the soberness or rather sedateness of the general appearance. There is no glare and glitter as on the banks of the Missouri although his equipments are in quality as luxurious as that of any Western studio. But the impression is a rather sombre one, very much like that derived from a study of his prints. As I looked through his albums (in his reception room downstairs) big heavy leather bound affairs with the titles "Representative Men", "Ten Daughters of Milwaukee," "Chips of the Old Block," I wondered at their dark tonal qualities. Why, here is a tonalist, I mused, that outdoes all other tonalists. He carries the *general* tone a few shades deeper than I have ever seen done before, and yet every thing is distinct, of superb breadth and clearness. A remarkable feat, indeed. But this given audacity, this sinister coloring, even in his por-

traits of children!—I could not explain it. It set me thinking for quite a while, until the thought occurred to me that this photographer had German blood in his veins.

His work has all the earmarks of Teutonic solidity. It is healthy and sane, free from all artifice, a trifle heavy but notwithstanding gentle and refined, and, as a matter of course, accomplished in all the technical qualities that make the mode of the day. There is no false pretense about his portraits. They do not claim to be extraordinary stunts, they merely present what every good portrait should do, a reliable likeness, done in good taste and excellent workmanship. In his methods as an operator Stein is naturally at slight variance with the most "advanced" photographers. He does not take his sitters by surprise like Pierce, nor does he force the facial expression as Strauss and MacDonald are wont to do. He relies upon the simpler method of coaxing his sitters into the most favorable expression of themselves. Will Armstrong's imitation of how Stein takes the portrait of a child (which he gave for my sole benefit one wet evening) showed me, like all parodies do, the principal characteristics of this method. It is less direct than that of the other men. Persuasion, or in other words, giving advice to the sitter how to deport himself, no matter how deftly it may be applied, is, after all, only a refined version of the stereotyped "Look pleasant!" But it is, after all, the result that tells, and I am of the opinion that the old-fashioned way is more conducive to a *flattering* likeness than accident or suggestion. People know when they look pleasant and a reminder that this is now expected of them, does no harm; on the contrary, their features are apt to assume that expression more readily. No sitter is perfectly unconcerned and it is just as well to concentrate his attention and command him to do something than to let him gaze about wondering what the photographer is going to do with him.

Stein as a portraitist is what might be termed an idealist of the old school. He is one of the few photographers of note who proclaims his devotion to the austere rules of the old style of composition; by this I do not mean the papier mache period but rather the era of daguerreotypes that had for its chief distinction a frank simplicity and charming straightforwardness of purpose. Stein's work, when at its best, represents the old view of portraiture, but brought up to modern demands by exquisite technical finish and a most sensitive nature. He has the trained eye, the quick perception of harmony in art, and light and shade that we are accustomed to in masterpieces of portraiture.

At the same time he has no use for faddism, and but little faith in so-called impressionist composition. He has no doubt noticed all the various changes or rather fashions that composition has undergone in recent years, but contrary to the majority of his confreres who slowly and continuously follow in the footsteps of distinguished amateurs like Kasebier, Steichen and Coburn, he has stuck with dogged deference to the old canons.

And I believe he will win out in the long run. There is only one genuine style of composition—in best portraiture at least—that of the Old Masters. They have exhausted the subjects and it is difficult to equal and well nigh impossible to surpass them.

By clear and unusual space arrangement no doubt many a stunning effect might be attained but a portrait of this kind is after all more of a time-pleasing novelty than an artistic accomplishment.

Stein as far as I can judge has a wider knowledge of art than most men, but he does not make any unnecessary display of it. He uses it discreetly. It is to him merely an acquisition such as every photographer, who takes his profession seriously, should possess. His portraiture has as little *pose* as he himself. He merely expresses what he feels impelled to express, things subordinating his per-

sonality to the subject. And for that reason his portraits are never overloaded with pictorial souvenirs like those of Garo, who seems to be haunted with the visions of innumerable paintings.

For this reason, I presume, knowing that he has the right basis to work upon —Stein has been all his life a staunch advocate of art in photography. I believe all the leading photographers claim this distinction for their work. Stein, however, has very positive opinions upon the matter and has oftener than most professionals asserted himself in that direction. His arguments are clear and logical, but as he said himself "there is no reasonable prospect of reaching any acceptable or definite conclusion" just now, and as this is hardly the place for any further discussion we will let it rest at that. With dignified piousness he at least has held to the opinion "that a work of art is not a matter dependent upon the tools, the method or the materials used, that these factors merely play a part in ensuring a more or less successful result, but that it is the man behind that counts."

I most heartily endorse the latter part of the argument. His own career is the best evidence of it. With him the camera was in competent hands, he had basis and the superlative technical skill to make his expressions of life reflect his personality. Whether this is art or not is really a futile question as long as we all know that it is good photography. Why not be satisfied with that!

AWAKENING NEW BUSINESS

BY A. LOCKETT.

THE following article from the pen of Mr. Lockett appeared in the *British Journal of Photography* some time ago. It is so much in line with the business talks of this year's conventions that we reprint it for the benefit of our readers. —Ed.

IT is a singular fact that the professional photographer is seldom a good man of business. He may be a clever technical worker, instinct also with that artistic taste and sympathy which are emphatically necessary for successful portraiture. He may be, better still, possessed of that tactful and winning manner which pleases the sitter, but still the one thing, from a pecuniary point of view even more important than all the preceding virtues, is lacking—the ability to so keep himself in the public eye, and to push the attractiveness of his wares, that he need never sit down and wait for custom.

No doubt a certain amount of this failure to grasp the essentials of business prosperity arises from a species of false pride, a kind of traditional sentiment that the photographer has a distinctive professional status to uphold, and so must carefully abstain from undue advertisement and commercialism. There is, of course, much to be said for this view of the matter. No zealous lover of the camera craft would wish to see anything done which could at all lower the estimation that the public instinctively feel for at least high-class photography, or which would tend to degrade it into a mere trade. But it is questionable whether this has not already been done to such an extent that the worker who omits to captivate his clients by a sufficient amount of well-judged pushing and puffing is bound to go to the wall. It is infinitely regrettable that the profession of photographic portraiture should have allowed itself to sink so far into the present abyss of suicidal competition, with its resulting low prices and surplus of unemployed; and it is doubtful whether some degree of blame ought not to be attached to the short-sighted

policy of those workers who, once entrenched in an easy and lucrative position, could find no means of preventing or avoiding such a pass. That, however, is over and done with; the photographer of to-day must take things as he finds them, and make the best of the prevailing conditions.

For all the complaints of bad business so persistently heard, the amount of photographic work actually done is by no means so large as it might be if an intelligent attempt were made to open fresh sources of custom. An illuminating instance of this may be given. At a sleepy little south coast watering place there were, until a year ago, seven photographers of varying grade. There was the leading man, with a smart, double-fronted shop on the parade, his windows filled with portraits of his Worship the Mayor, the local clergy, and other dignitaries. Three or four second-rate men catered for a middle-class connection in different parts of the town, while the remaining studio might be placed without serious libel in the catalogue of the "cheap and nasty." The amount of business done fluctuated, but it would have been heartily agreed by any observant looker-on that there was absolutely no chance for a newcomer. The aristocratic owner of the studio on the front just managed to decently clear his expenses and leave enough for an occasional visit to the theatre with his family. The four middle-class studios were commonly in a chronic state of insolvency, and frequently changing hands. The cheap worker, curiously enough, did rather better, but had to be content with a tremendous slump in the winter season. Such was the position of affairs when, hardly twelve months ago, an enterprising citizen of Yankeedom, greatly daring, started a new establishment on the front. Unlike the usual run of his compatriots he did not seek to introduce strikingly original methods of work or advertising, but, beyond the fact that his premises were in every respect handsome and up-to-date, pursued his way in quite the orthodox fashion. And yet, simply by reason of a keen eye for display and an eager seizing of every possible opening or suggestion of business, it has come to pass that, without at all affecting the amount of work done by his seven predecessors, the American now takes five times the receipts of all the others put together.

The fact of the matter is the British photographer is too apt to forget that portraits are not a necessary of life, and that, therefore, he cannot well rely upon a steady and continuous flow of orders if things are left to themselves. It is no good to take the business that comes, the business that is already there. He must create a new demand by perpetually arousing fresh interest in previously undisturbed directions. He must, in fact, take a leaf from the book of the wide-awake modern tradesman, and "open a new line."

It might be thought that there is very little scope for the introduction of anything really new and original in the photographic business. That such is not the case is amply proved by the remarkable success now attending the offer of minatures at a low, but probably remunerative, price by a widely circulated daily paper. This is a source of income which scarcely one photographer in a dozen has cared to turn his attention to, and now, as with the bromide enlargement, it is the outsider who reaps the benefit. The public taste demands a novelty, and the wise man of business knows how to supply this at just the right moment. It is a common delusion that a thing, to be new, must be absolutely novel. It may be entirely played out in one county and quite a rarity in another, and these local differences should be critically noticed. We remember a well-known worker telling us that his specific for the improvement of business was to go all round the neighborhood examining his rivals showcases, and to make a specialty himself of whatever he found the others had not

got. Incredible as it may seem, there was actually a small town in which, till quite recently, the carte-de-visite had disappeared from all the photographers' showcases. At last, it appears, one of them noticed the omission, filled his windows with cartes, and is now inundated with orders.

It is the law with everything else, and the photographer cannot expect to ignore it with impunity—something becomes popular, has its day, and then steadily declines in public estimation, giving place to a fresh favorite, until, perhaps, the once successful draw becomes so utterly forgotten that it may be safely re-introduced as a novelty, good for a second run of prosperity. It is often in the revival of these formerly popular but now neglected fashions that a striking success may be achieved. Many examples will readily occur to prove the truth of this to an investigating mind. The renaissance of the miniature is a case in point, and there are numerous other instances in every branch of industry and art. What is required is simply a moderate portion of that prophetic foresight which enables one to anticipate what will take the public fancy, and the executive ability to take advantage of and fully supply the demand so created.

Even without the introduction of actual novelties or the revival of past processes and methods, there is ample scope for the presentation of the photographer's present work in a fresh and more attractive light. A new line may be struck in the display of specimens and the decoration of windows and showcases, just as surely as by any other way. The value of frequent change in the showcase or window is not appreciated as it should be. It no doubt involves much extra work and trouble in the preparation of suitable specimens, but this is generally amply repaid. It is better to show only a few specimens, with frequent changes, than to have a larger display which is suffered to become tame and commonplace in everyone's eyes by reason of long familiarity.

It is inevitable, of course, the moment a new line is started, or anything fresh and original introduced in the conduct or methods of a business that imitators will immediately follow suit. This must be expected, but the enterprising photographer will have gained not only a momentary start of his rivals but, in many eyes, a reputation for smartness and up-to-date ideas which will linger with him for some time. It must then be his object to maintain every trifling advantage gained, and to keep ever to the front in all that is bright and unhackneyed. All this can be done without in the least diverging from a dignified and self-respecting professionalism—in fact, whatever is contrary to this simply spells failure sooner or later. The man who merely thinks of the present moment, straining all his energies for a temporary triumph over his competitors by an undesirable cutting of prices that are already too low, or by other penny wise and pound foolish tactics, may profit exceedingly for a few short months, but will in all probability soon realize with disgust that he has succeeded in permanently damaging not only his neighbors' business, but his own as well.

BROMIDE BREVITIES

KEEP the prints well separated when fixing and washing.

A PARAFFIN lamp, with wicks carefully trimmed and turned as high as possible without smoking, makes a very uniform light for printing.

BROMIDE prints soaked in a mixture of glycerine 2 oz., water 10 oz., and dried, will not curl, and may be used for book illustrations unmounted.

ENLARGEMENTS may be straightened after drying by the scraping action of a sharp-edged ruler applied to the back, the corner behind the ruler being lifted as the ruler is passed along.

HYPO.

BY E. A. TURNER.

ONE of the most important of all photographic chemicals is ordinary Hypo. It costs less than two cents a pound when purchased by the keg, but, for all that, there isn't another chemical in all the chemist's vocabulary that will take its place. Even for several dollars a pound you cannot secure any other chemical that will fix a plate or print as well as the two-cent commercial Hypo.

And what is Hypo? The chemist knows it as the Thiosulphate of Sodium. In the drug shop it is usually known as Hyposulphite of Soda. In common parlance this name is shortened by the familiar "Hypo." Hyposulphite is really an incorrect name. The true Sodium Hyposulphite is a rather rare chemical, scarcely met with even in the chemist's laboratory. It has no particular use and is expensive, so there is very little trouble in confusion of names. A chemist who desires to procure the real Hyposulphite usually knows how and where to buy it. In the shops the ordinary "Hypo" or Thiosulphate of Soda is always furnished when Hyposulphite is specified.

Hypo is a compound of three chemical elements, Sodium, Sulphur and Oxygen. So also is Sodium Sulphite; the only difference is in the proportion. The Hypo contains one part more of sulphur than sulphite. This is readily seen from the chemical formulae:

Sodium sulphite, $Na_2 SO_3$.
Sodium thiosulphate, $Na_2 S_2 O_3$.

One of the earlier methods of preparing "Hypo" makes the relation clearer. The process was simply that of boiling the sulphite with the correct proportion of Flowers of Sulphur. The Sulphite solution under these circumstances will take up the necessary sulphur and be converted to a solution of Sodium Thiosulphate from which the "Hypo" may be crystallized out. This method is no longer useful in practice, since "Hypo" is produced as a by-product in chemical factories. It would have to be thrown away were it not for its photographic uses.

But $Na_2 S_2 O_3$ does not represent the entire composition of ordinary "Hypo". The complete formula is $Na_2 S_2 O_3$ plus $5H_2O$. The $5H_2O$ represents the five molecules of water of crystallization that are contained in all crystal Hypo. By *crystal* Hypo, we mean all Hypo that is made in the solid form by crystallizing out of a water solution. It includes not only the large crystals and the pea crystals, but also the granular and powdered forms. Granular Hypo is simply crystal Hypo in finer crystals. The crystals are made fine by agitating the liquid while they are separating. Powdered Hypo is made by grinding any one of the crystal forms. There is also Anhydrous Hypo just as we have Anhydrous Sulphite of Soda practically free from water of crystallization. Anhydrous Hypo would be represented by the simple formula $Na_2 S_2 O_3$. Anhydrous *Sulphite* is of double the strength of crystal Sulphite but the difference is not so great in the case of Hypo. About six parts of anhydrous Hypo are required to be equivalent to ten parts of crystal Hypo. The anhydrous salt is very different in physical form and properties from the crystals. When making a solution with ordinary Hypo we always notice a marked lowering of temperature of the liquid, due to the dissolving of the crystals. When Anhydrous Hypo dissolves, however, instead of a lowering there is a raising of temperature. A little Anhydrous Hypo mixed quickly with water to a paste in the fingers, becomes quite warm. If this experiment be tried another peculiarity is also noticed, namely, the Anhydrous Hypo takes up

quite a considerable amount of water and "sets" to a hard solid, just as "plaster of Paris" does. This property makes it somewhat difficult to prepare a solution from the anhydrous salt. When poured into water the particles immediately cement themselves together very firmly into large masses which are slow to dissolve. It is far easier to make solutions with the crystal forms of "Hypo", which have not the tendency to "cake". Of course, this caking tendency may be obviated by stirring the solution while pouring in the powder in a fine stream, but as the anhydrous form of Hypo is more expensive and not usually so pure as ordinary hypocrystals, it is hardly at all used in America, though employed to some extent in Europe in the manufacture of fixing cartridges of exceptionally small weight and bulk.

Some few photographers insist on using chemically pure Hypo in their work, but the precaution is quite unnecessary. Ordinary Hypo is really a very pure article and, even were it not, slight impurities would do no harm. You may add considerable amounts of Sulphite, Sulphate or Chloride of Sodium to any Hypo bath without appreciably affecting its properties. When preparing developing solution one of the reasons why pure chemicals are necessary is to make certain that the right strength of each chemical enters into the solution. With Hypo solution, however, the strength is comparatively unimportant, so this reason has no weight.

The plain Hypo solution of twenty or twenty-five per cent. strength is quite as good as anything, as far as the simple operation of *fixing* is concerned. But when a plate is brought over to the Hypo bath it is always more or less soaked with developer, and it is to neutralize this developer and to prevent discoloration of the fixing bath and staining of the negative, that an *acid* fixing bath is employed. Alum is frequently also added to the acid fixing bath to harden the gelatine film of the negative, and prevent frilling and blistering. The bath is then a combined "three in one" bath for fixing, hardening and neutralizing the developer at the same time. These acid fixing baths are in practice much more economical than plain Hypo baths, simply on account of the fact that the bath remains clear and may be used for a much longer time before it has to be replenished. A bath is never thrown away because its fixing power is exhausted. A pound of Hypo would be sufficient in chemical strength to fix several cases of plates, but it never is used for more than a few dozen in practice, on account of becoming dirty and discolored.

EXPRESSIONS IN PORTRAITURE.

BY CARINE CADBY.

THE more experienced a photographer becomes in that branch of photography which has to do with the human face, the more will he realize the all-importance of expression.

It has been said of a famous actress, whose features were in no way remarkable, that her expression was such that in her presence mere beauty became tame and unattractive.

It is remarkable that expression has the power to transform a face, for, after all, what is it? The features and contour must remain the same, and yet it makes the difference almost of life and death, between a real face and a mask.

Some think the term "expression" means a smile, but this is by no means necessarily the case, for to many people a smile would not be at all natural, and

surely a portrait should aim at likeness. It should suggest the character underneath, as well as portraying the outward form.

To get a good expression, two people are needed, the photographer and the sitter, and when it is a success they should share equally in the triumph, though in this unfair world it is generally the photographer who is blamed for a bad expression, and the sitter praised for a good one! I think it was a woman photographer who was said to be able to discover in an incredibly short time exactly what subject was of greatest interest to her sitters, about which she would chat pleasantly, until the exposure had been made. An excellent theory, indeed, but alas! one may look very far before finding another such well-informed photographer, possessing, too, such marvelous intuition and sympathy; and considering how one's attention must be concentrated on the work, it is a little too much to expect.

It is well for the photographer to husband his energies, as regards getting an expression, until the critical moment. It will not cost much effort to chat in a desultory way while he is getting his sitter in position and focussing; then, when the plate is in and all ready, and the sitter has been allowed a little rest, with eyes shut, he must begin using his wits to get the expression.

"Go on talking," he says to his sitter.

"How can I talk, with my neck screwed round like this, and when I daren't stir?"

"I wonder why women are so uncontrolled."

"Not more than men; look at you, when your tripod slipped just now."

"But there was some excuse; I was losing a real picture."

"A real picture! do you mean . . . ."

"Yes; keep just like that . . . . thank you, that's splendid."

The other person to help with the expression is the sitter, and one cannot impress it too strongly on sitters that every expression, as well as pose, has to be overdone to look natural. For instance, the expression that looks pleasant and happy on the ground-glass, somehow comes out on the plate as quite a serious one; that it ends in just a pleasant expression, and a downright broad grin will often evolve itself into just an agreeable smile.

If, for dramatic purposes, one wishes to look terrified or threatening, the same theory holds good, and one has to exaggerate the expression; eye-brows and mouth have hard work before the right effect can be produced. The camera is so inclined to make expressions so tame and unconvincing, which is one reason for the prevalence of "the photographic expression."

If a smile or any other expression is needed for a long exposure, it can quite well be obtained by "hanging on to it like grim death," as one model very tersely expressed it. The muscles must be kept in exactly the same position. It feels perfectly hopeless, as if one's face were looking a grotesque mask, but if one has conscientiously "hung on" and really not relaxed a muscle, the result will often be surprisingly satisfactory.

Of course, there are natural actors and actresses, who can manufacture the desired expression at a moment's notice, but they, like the marvelously sympathetic photographers, are not so easy to find, and these notes are intended only for ordinary mortals—we who have no special gifts but just the usual amount of common sense.

Photographic Monthly.

There is an announcement in the front advertising pages of the MAGAZINE that will interest you. Either of the two annuals will be sent free and postpaid, if you renew promptly. There is a time limit to the offer. Send your subscription direct, and do it now.

KALLITYPE PRINTING.

THE kallitype process has lately been interesting photographers. At the recent convention of photographers of the Pacific Northwest a series of large kallitype prints were exhibited and much admired.

The following article is reprinted from the *Year Book of Photography,* where it appears with many other useful and interesting papers. ED.

It is some years since the first kallitype paper appeared on the market, and was withdrawn because the inventor was dissatisfied with the permanence of the results; but it may, perhaps, be remembered that in the instructions as then issued no hyposulphite was employed, the iron salts in the paper being first rendered soluble by a bath of borax and Rochelle salts, and finally removed in ammonia. Later experience has shown, however, that it is an advantage to use a hypo fixing bath, and that, if it is employed with proper precautions, the permanency of the print need not be questioned. Possibly, some photographic inventor may devise a kallitype self-toning paper, the introduction of which should give an incentive to these methods of iron-silver printing. The method, however, which I can recommend to those making a first trial of the process is as follows:

The Sensitizing Solution.

A sensitizing solution is made up from ferric oxalate (75 grs.), silver nitrate (30 grs.), distilled water (1 oz.). In dissolving the chemicals, the oxalate is first weighed out and placed in a stoppered bottle. Water is then added, and the bottle placed in a saucepan of water, which is gradually heated until, with constant shaking, the oxalate dissolves. If it should not do so readily, the addition of 5 or 10 grs. of oxalic acid will put matters right, although there may be a little residue in any case due to the presence of ferrous oxalate in the ferric salt. Unless the solution is quite bright, it should be poured through a filter paper before the silver nitrate is added and dissolved. When cool, the whole forms the sensitizing solution, and can be kept in the dark for a considerable time—several months. The paper is coated with a sensitizer precisely as described above for ferroprussiate.

In the case of very rough papers, care must be taken that the solution reaches the depressions, and for this purpose it should be thoroughly daubed on to the paper with cotton wool, being afterwards uniformly distributed with a sponge applied first one way and then the other.

Development for Cold and Warm Tones.

The printed kallitype image strongly resembles that in the platinotype process, being of a faint brownish color on a yellow ground. Exposure should be continued until detail is faintly visible in the densest parts of the negative. It will be understood that at this stage we have a print in which the image consists of reduced iron salt (ferrous salt), which posseses the power of reducing the silver nitrate to metallic silver, which power, however, is latent until a solvent of the iron salt is applied to the paper. Various substances may be employed for this latter purpose, chief among which are borax, Rochelle salt, sodium acetate, sodium tungstate. The formulæ based on various combinations of these substances permit of a variety of tones being obtained at once by development. For a pure black tone the following is a very good formula:—

Borax	1 ounce
Rochelle salt	¾ ounce
Water	10 ounces
Potassium bichromate (one per cent. solution)	7 to 9 drms.

manipulation which it involves. Its results, however, cannot be compared with the process which has just been outlined in respect of delicacy and rendering of gradation, nor can the fine black tone of a kallitype print developed with borax and Rochelle salt be obtained. On the other hand, the process is capable of yielding prints of a pleasing, warm tone, and of a character as regards gradation which is often described by the blessed word "breadth." The following is a very suitable formula for this modified kallitype:—

Four stock solutions are prepared.

A.—Green ferric ammonium citrate.	110 grains
Water	1 ounce
B.—Tartaric acid	20 grains
Water	1 ounce
C.—Silver nitrate	45 grains
Water	1 ounce
D.—Gelatine	30 grains
Water	1 ounce

Solutions A and C will keep for some months in the dark, whereas B, owing to the formation of a mould, will only remain in good condition for a week. The gelatine solution should be prepared at the time of use. The gelatine is first swollen in a little water for half an hour, and is then dissolved by adding the remainder of the water, and placing the containing vessel in a saucepan of boiling water. The sensitiser is made up from equal parts of these solutions, as follows:—

Half an ounce, say, of the gelatine solution, warm and fluid, is placed in a cup standing in warm water. A similar quantity of each of A and B solutions is added, and, lastly, the same volume of silver solution, the addition of which is made a few drops at a time whilst stirring the mixture with a glass rod. The warm sensitiser is applied to the paper with a tuft of cotton wool, and evened with a camel's hair brush, which is dragged across the paper without pressure first one way and then the other. As soon as the coating loses its wet glassy appearance, and begins to look dull, the paper is hung up to dry, and in a few minutes in a warm room should be ready for printing.

It is exposed under a negative until a fairly vigorous image is obtained, the details in the high lights of the original being visible. The print is then placed in plain water for about a couple of minutes, and in this it reaches its full vigor, and becomes of a reddish-brown color. It is then transferred to a weak hypo bath, about 10 grs. of hypo per oz., in which it fixes, and, at the same time, becomes brown in color. The final removal of the hypo by about an hour's washing in water completes the process.

THE ORTHOCHROMATIC PLATE AND SCREEN IN PRACTICE.

BY T. THORNE BAKER, F.C.S.

If we examine critically the properties of the average "cheap" yellow screens for orthochromatic work, we find them woefully deficient in many ways. Yet it is astonishing what good work is done with their help, and how popular they have recently become. The advantage in a properly adjusted light filter lies in the fact that a maximum of good is obtainable in the minimum of time. With the cheap screen, generally made of pot-metal glass, a longer exposure than needs be is required, because it cuts out some of the rays of light we want as well as cutting out those we do not want. These latter, moreover, are not treated in the correct way. But an improved result is obtained with them, and this is, after all, the chief thing which the average photographer is striving to get.

So if we are going to be satisfied with

an improved rendering of colored objects, and do not insist on a strictly scientifically orthochromatic result, let us see how we can use the screens and plates at our disposal to the best advantage.

The Commercial Cheap Screen.

As a general rule, the big "houses" like Houghtons, Butchers, Fallowfield, and so on, supply screens requiring three, five or six, and nine or ten times normal exposure. But as each brand of plates differs in some way or other from other brands, it is clear that the increase necessary in exposure will not be the same for each plate, with one and the same yellow screen. Then, again, a "five-times" screen is one which necessitates five times as long exposure as the *orthochromatic* plate would require without it—not five times as long as you would give using your ordinary non-orthochromatic brand. Hence, it is of vital importance to make one or two exposures with the plate alone, and see what its speed really is. This is best done by taking an indoor photograph of a sheet of newspaper, or some black and white object. Assuming you would ordinarily give two seconds with a certain stop, lighting, etc., and that you have bought a five-time screen, take two photographs, one without the screen with two seconds' exposure, and one with the screen with ten seconds' exposure. Develop the two plates together for the same length of time, and after they have been duly fixed and rinsed, inspect them carefully in daylight. If the two negatives are fairly equal in density and general character, it may be taken for granted that five times the normal exposure will suffice when using the screen. Usually, however, another experiment or two will have to be made, as unless the screen is specially made for the plate in question, the increase in exposure will be less, or more, than five times.

A Home-made Ortho Screen.

It is interesting, and instructive also, to make an orthochromatic screen for one's self, and the following experiment is therefore worth carrying out. In gaslight, take an ordinary lantern plate, and fix it in a solution of 4 oz. of hypo to 1 pt. of water for ten minutes. Then wash it for an hour, and let it dry in a room free from dust, in a vertical position, or in a drying rack. This gives us a piece of glass with a colorless, transparent coating of gelatine, and this we can stain to any desired color by soaking it for the requisite time in a dye solution.

The following solution will answer the purpose perfectly:

Naphthol (yellow)	5 grains
Water	4 ounces

See that the dye is completely dissolved before the solution is used, and if you possess a funnel and filter papers, filter it in the ordinary way. A clean dish is now taken, the fixed-out lantern plate laid in it, and the yellow solution poured over it with a "sweep," so as to avoid any air bubbles. In about ten minutes the gelatine film will have become dyed to a pale lemon yellow color. It is then rinsed well under the tap, and allowed to dry. Two or three glasses should be stained in this way, to varying depths of yellow, and the most suitable one then found by experimental exposures on some colored subject.

Testing the Screen

It is very desirable to test any orthochromatic screen, whether made at home or purchased ready made before it is put into practical use, and the simplest way to do this is to make a "chart" or color test, by sticking strips of different colored papers on to a piece of cardboard and photographing it with an ordinary plate, and with the color sensitive plate and screen together. Four pieces of colored paper will be quite

sufficient, and these may suitably be Prussian blue, emerald green, yellow and vermilion. The ordinary plate will render the blue strip densest in the negative, green less dense, yellow very faint and vermilion hardly at all. There is a certain amount of white light reflected from these colored papers, which acts on the plate and is sometimes a little misleading; hence the action in the yellow and red strips. An orthochromatic plate and screen will give a negative in which the blue is least dense, green denser, yellow most dense, and vermilion dense or faint, according to the qualities of the plate. Comparatively few plates are sufficiently red-sensitive to appreciate red objects properly, even with a light yellow screen, so too much must not be expected in this case. Prints should be made of the negatives, when it will be quite clear that the ordinary plate gives a totally wrong rendering of the test chart, whilst the color sensitive plate and yellow screen gives a far more natural one; *i. e.*, dark colors appear dark, light colors light, etc.

Practical Points.

We now come to a consideration of the practical use of yellow screens in everyday photographic work. First of all there must be some means of attaching the screen to the lens, behind it, in front of it, or (more rarely) between its two components. Most of the cheap screens supplied by the dealers, who seem to contrive that we have nothing to do for ourselves, are fitted with some arrangement, by means of which they can be readily attached to the lens.

A common form is the circular yellow glass fitted in a circular hood, with a watch-spring which presses outwards, so that when put on the lens-tube (just like the cap), it remains tightly in position. Of course the lens-cap cannot then be used, and a behind-lens shutter is necessary. Circular screens can also be obtained to fit *inside* the lens-hood, so that the cap can then be used in the ordinary way. Unmounted circular screens may be obtained also, which can be kept in position in the lens-tube by means of a split ring. The devices of these modern inexpensive light filters are, in fact, many; but they are all extremely simple, and one has only to purchase one of them to find at once how it may be most conveniently attached. The square unmounted screen deserves mention, as the majority of scientifically made filters are of this pattern; some form of adapter is then needed, and many such are already to be had.

Choice of Subject and Screen

The choice of a subject is a point on which something must be said, as in some cases it is hardly worth while using an orthochromatic plate and filter, and if used, the difference in the result will be practically unnoticeable. Needless to say, orthochromatic plates will answer in all cases where an ordinary plate is used—without the screen—but it is in landscape work, flower photography, picture copying, interior work, &c., that the benefit is gained of the use of colored-corrected materials.

Those about to purchase a screen may be at a loss as to which kind to have, as they are offered ones which will increase the normal exposure three, five, and ten times, or three, six, and nine times, &c. It is clear that an ideal filter will require a fixed time with the plate for which it is made, and that therefore certainly only one, if any, of such screens is "ideal." It is, nevertheless, very useful to possess two screens, a light one and a dark one. The light one may be used for hand-camera or portrait work and cloud photography, where short exposures are desired, and the deeper one for landscape work, flower photography, and so on.

Exposure and Development.

Try to give always plenty of exposure when using a screen, as under-exposed results are often unusually harsh. There

is a good deal of latitude permissible when using the light filter, and a little more exposure than the amount calculated will rarely do anything but improve and soften the result. The screen will be found to slightly alter the focus with near objects and it is advisable to focus the picture through it *always* if possible.

As regards development, all that need be said is that we want a good ruby light for the operation. not yellow nor orange, but *red*. A fairly rapid working developer is desirable, not too much restrained, and the following metol-hydroquinone formula will be found satisfactory:—

Distilled water	10 ounces
Metol	5 grains
Potassium metabisulphite	5 grains
Hydroquinone	16 grains
Sodim sulphite	¼ ounce
Sodium carbonate	200 grains
Potassium bromide	2 grains

Pyro-soda is as good a developer as any, as it gives one such perfect control over the work, and by having it in the form of two solutions it is easier to modify it for under or over exposures.

On the whole development is the same. as for ordinary plates, but care should be taken not to let too much red light fall on the plates, especially during the first part of the operation. A box-lid should be kept to cover the dish during the first two or three minutes, and the plates should be examined by transmitted light as little as possible.-*Photographic News.*

SOME NOTES ON GREEN TONES ON BROMIDES BY VANADIUM.

BY C. WINTHROPE SOMERVILLE, F.R.P.S.

SINCE the publication of my little work, *Toning Bromides,** I have received a considerable amount of correspondence on the subject of green toning by the vanadium formula contained therein.

Some of my correspondents have found the process unsatisfactory, for two reasons: (*a*) difficulty in toning the highlights of the print; (*b*) uncertainty of the amount of washing required to eliminate the blue tint which, after toning, masks the green.

Others, successful with the process, have been sufficiently enthusiastic to write most complimentary and flattering remarks on the beauty of tone and ease with which it is obtained.

Although it is not absolutely essential that the process for the production of a tone should be mechanical, a process, to be of any use, should be workable by the veriest tyro. Toning is essentially a chemical process, and as such should up to a certain point, be mechanically exact; and if the results at the finality of the reactions be a permanent tone, one should be able—all previous necessary manipulations of the print being perfect for the purpose—to obtain it at any and all times. That this ideal condition does not always obtain is well known, and in connection with the vanadium green toner, I propose to give some of the reasons why.

It must, however, be understood that the personal element does not exist, and that we are treating it purely as a mechanical process. Let it also be taken for granted that the print is in a chemically pure state for toning.

We have a print containing a deposit of metallic silver in such a fine state of division as to be amenable to conversion into another metallic salt. In this instance the salt must be a green one, and we know that vanadium ferricyanide is green and a fairly stable salt; also that it can be produced through the medium of silver ferricyanide.

If the silver is converted first into silver ferricyanide and then the vanadium toning solution applied as originally advocated by Professor Namias, a bright green tone of vanadium ferrocyanide is produced. But the shade is so bright that the raising of the shadow depth from black to the green produces a print very weak in intensity.

* Published by Tennant & Ward, New York.

My experiments were directed towards a method whereby the green could be imparted to the black of the silver to any extent. But in doing this I did away with the mechanicalness of the process, making the final result largely dependent on the personal element.

In the hands of a careful worker this is a very advantageous feature, but in the hands of a beginner, my correspondence has told me, a decidedly uncertain one.

Green tones on bromide prints, by whatever process, are invariably produced through the medium of an iron salt; for, although it is possible to do without it, the result is very weak and poor.

The formula in question is as follows:

Vanadium chloride	2 grains
Ferric chloride	1 grain
Ferric oxalate	1 grain
Potassium ferricyanide	2 grains
Oxalic acid (saturated solution)	12 ounces
Water	4 ounces

The print is placed in the solution and toned until a bright but deep slate, blue tint prevails in high-lights and shadows; it is then washed, preferably in running water, until the blue disappears, leaving the olive-green tone behind.

The extent of the immersion in the solution determines the ultimate intensity of the green tone.

At first I was under the impression that Prussian blue was first formed as in the case of ferric chloride and potassium ferricyanide blue-toned print, but I have since found that the blue tint is in the emulsion and paper, and not in the silver. And herein lies the difficulty, to know when to stop toning. If the immersion be too short, insufficient vanadium ferricyanide will be formed, while if it be too prolonged the green tone may be too light, owing to the fact that too much of the original silver has been converted.

It is highly probable that the silver is converted into silver ferricyanide and vanadium ferricyanide practically simultaneously, although the silver salt must be formed first.

Later experiments with the process have revealed the following points:—

1. Vanadium chloride deteriorates fairly rapidly in a weak solution of hydrochloric acid.

This I have found to be the chief cause of non-success with the process, and make the following recommendation. Since the quantity of vanadium in the formula is practically immaterial, providing there be sufficient, it is better to keep it in solid form, and for the above formula dissolve a piece about as big as a pea in not more than 20 minims of concentrated hydrochloric acid. Or if many prints are going to be toned, add 2 drams of acid to 100 grains of vanadium chloride, and use 5 minims to the above formula.

The oxalic acid should first be put into the measure, made up to two grains with water, then add the ferric oxalate, chloride, ferricyanide, and finally the vanadium.

2. See that you obtain the vanadium chloride in the form of a pasty green substance, and keep it in a stoppered bottle.

3. Avoid an excess of hydrochloric acid, as it would have a tendency to bleach the print.

4. The ferric oxalate must be perfectly pure.

5. Toning should continue for *not less* than three minutes, and may be prolonged for six or seven.

6. Toning and washing should preferably be performed in daylight, or may be done in incandescent gaslight, but should *not* be done in yellow gaslight or incandescent electric light, as it is impossible to judge the appearance of the green in yellow light.

7. Gaslight papers tone very much quicker, and give a very much poorer tone than bromide. This also applies to all forms of toning solutions.

8. Wash in either slowly running water or frequent changes.

9. Washing is prolonged by the fact that the stain from the potassium ferricyanide must be eliminated.

In some recent efforts to reduce the time of washing prints which had been immersed in a solution containing potassium ferricyanide, I discovered that a 5 per cent. soltuion of potassium citrate has the effect of almost completely eliminating the yellow stain without in any way interfering with the gradation of the toned print has the effect of quickly discharging the blue tint, revealing the green print. Applying this to a vanadium-almost immediately.

A knowledge of this is of great value in toning with solutions containing the ferricyanide.

Personally, except in one or two instances where the deterioration of the vanadium chloride showed it to be the chief cause of uneven toning, I have always been perfectly successful with the process, and now, after three years, have prints on my walls as good as when they were toned.

It is however most desirable,that everyone should be able to work the process, and I hope these notes will have the desired effect. I should add that if a print has been insufficiently toned, it may be re-toned either before or after complete washing.—*Photographic Monthly.*

THE PRINTING QUALITY OF NEGATIVES.

One of the most important points in professional photography is uniformity of results, and we think most workers of experience will agree with us when we say that if uniform negatives are produced more than half the difficulty is overcome. It may be taken for granted that the commonest variations are variations in printing strength or range of gradation—that is, negatives are made too strong or too weak for the process for which they are intended. That a negative shall have shadow detail, or, in other words, that the gradation shall commence with the recording of the darkest tones of the subject, is practically essential for every process, and is usually attained by any worker with a little experience. Sufficient exposure ensures this quality. The various steps in the scale of gradation must also be recorded, and this is to some extent a matter of correct exposure, but more a matter of excellence in the quality of the emulsion and liberality in the coating of the plate. The range of gradation, or difference between the light stopping power of the shadows and of the high lights, is affected by several factors, but mostly by the duration of development. The "density" is usually estimated by the worker by transmitted light from the dark-room lamp, and it is in this exercise of judgment that the errors arise. If we can eliminate *judgment,* which is always liable to error, and work more or less mechanically, uniformity of result is more probable. Of all the points in photographic practice there are few more difficult than the estimation of density during development and the decision as to the correctness of the range or printing quality in the finished negative. If we could ensure absolutely uniform conditions our plates might be developed for a uniform time, and uniform results would be obtained. It is, then, easier to allow for the variation in certain factors, which, as we shall see presently, affect the range of gradation in our negatives, or to adhere to the old method of stopping development when, after a visual examination by transmitted light, we judge that sufficient density has been obtained?

We need hardly argue the value of uniformity in professional work. The amateur is often advised to try his negatives in various printing processes until he hits upon the most satisfactory re-

sult. This is another way of saying that the amateur is often unable to produce a definite type of negative at will. Obviously the professional who takes his order for carbon or platinotype, and his negatives must be made of a character suited to the selected process. How may this be done with the greatest ease and certainty?

Let us first of all consider what are the causes of variation in the range of gradation or printing quality of negatives, and to avoid complication let me consider the matter solely from the standpoint of portrait work in the studio. Variations in range of gradation may be produced by:

1. The contrast in the subject.
2. The brand of plate used.
3. The exposure—*i. e.*, so-called over or under exposure.
4. The constitution of the developer.
5. The temperature of the developer.
6. The duration of development.

Taking the six points enumerated and examining each separately and from an every-day practical point of view, we may arrive at certain conclusions.

1. The contrast in a portrait subject is largely under the photographer's control. An exceptionally strong light can be softened in the usual way by means of a diffuser, and the contrast may be still further reduced by means of reflected light. When the light is very weak and poor, however, the contrast in the subject may be too slight, and in such cases steps must be taken to *increase* the range of the negative. Over-exposure must be carefully avoided, and development slightly prolonged. Negatives taken under such conditions are frequently intensified, a process always to be avoided, if possible.

2. The brand of plate used may be always kept to, and its characteristics and density-giving power become known. Any variations under this head would only arise from differences in various batches of emulsion, and would be so slight as to be negligible.

3. If work is being constantly done under ordinary studio conditions exposure should furnish few difficulties, for the latitude of modern plates is such that half or double the normal or "correct" exposure may be given without the range of the negative being practically affected. As a rough guide to exposure it will be found that one second may be given for every minute a Watkins meter takes to darken to the light tint. The meter is placed in the position the sitter will occupy, the stop in the lens being $f|6$, and the plate of a speed of 200 H. and D. The subject is assumed to be an inch and a half head and shoulders portrait.

4. The constitution of the developer must be kept constant. Stock solutions should be made up by careful measure, and not by guess-work, and the working solutions must also be measured each time. An important point to be observed is that sufficient sulphite of soda must be included to prevent any stain, even in those cases where unavoidable variations of other factors render it necessary to prolong development. As Mr. Chapman Jones has frequently pointed out, nothing is so uncertain in its effect upon the printing range as stain, which, it is safe to say, cannot be produced in uniform degree. It must not be forgotten that at summer temperatures a solution of sodium sulphide will deteriorate in as short a time as twenty-four hours, absorbing oxygen from the atmosphere and becoming sodium sulphate, when stain-preventing power is lost.

5. When we come to the question of the temperature of the developer we touch the weakest spot in the system we are advocating. Although the variations of temperature in England are much slighter than in America or on the Continent, it is highly probable that the actual temperature in dark-rooms varies more here than anywhere else. Where both heat and cold are greater, steps must perforce be taken to produce comfortable working conditions, but in England the proportion of really cold or very hot days is small, and no adequate provision is made for them. Under any

method of working, however, a low or a high temperature in the developing room brings its attendant evils. The dark-room should be so situated as to be not unduly exposed to the outside air or to the direct rays of the sun, and by some method or other it should be warmed in winter to a temperature of 60 deg. Fah., and kept cool during the summer by proper ventilation. By hanging up a thermometer in the room the variation from the normal temperature—and 55 deg. or 60 deg. may be regarded as such—can be noted, and as Mr. Chapman Jones suggested in his Traill-Taylor lecture, allowance may be made accordingly in the length of development. One or two experiments will readily show what percentage of increase must be given when the thermometer falls 5 deg., and rises an equal amount. Some developers are more affected by variations of temperature than others, hydroquinone being almost inert at low temperatures.

6. The duration of development is well understood to be the principal factor affecting range—the longer the time of development the greater the range. If, however, the fog occurs, either through stray light, unsafe illumination of the dark-room, or an unsuitable developer, the fog may develop to such an extent as to cause a diminution of range with prolongation of development. Also, if the plate has been over-exposed, and potassium bromide added to the developer to counteract this over-exposure, the darker tones will only be held back during the early stages of development, and the printing range may be lessened by carrying development beyond a certain point. That point will vary according to the degree of over-exposure.

To summarize, we see that the plate and the constitution of the developer are two factors out of the six which may be kept constant. Where the contrast in the subject was very slight the plates would be placed in a separate box for development for an increased length of time—say, 25 per cent. longer. With this occasional exception the contrast in the subject is also a constant. Experience enables a reasonably correct exposure to be given, and by taking ordinary precautions we have seen that the temperature of the developer need not vary to any extent during the greater part of the year. It will thus be seen that exposed plates may be developed for certain lengths of time, and that negatives suitable for the various printing processes can be obtained with more certainty than by the old method of estimating density. The range of gradation for any particular process varies with the make of paper employed or with the strength of the sensitizing bath, and the personal equation also comes in, for some workers prefer a rather stronger negative for a process than others. The following rough figures, however, will suffice to indicate what may be done. Four plates, all exposed with approximate correctness, were developed in the same developer for six minutes, eight, twelve, and sixteen minutes respectively, and the resultant negatives were suitable for printing in P. O. P. or bromide, platinotype, black carbon, and red chalk carbon respectively.

We have been led to give more detailed consideration to this subject because we have quite recently had several cases brought to our notice where workers seemed unable in the ordinary way to get negatives which gave them the character of print their clients and they themselves desired. The method we have advocated is practically that in use in the developing machines which have been so successful during the past few years.

—*British Journal of Photography.*

THE same developer may be used for half-a-dozen prints in succession, but should be thrown away when it gets slow in action, or the tones of the print will suffer.

DEVELOPMENT with metol-hydroquinone developer can be instantly stopped by immersion in salt 1 oz., water 10 ozs.

THE PHOTO-SECESSION.

THE first of the season's exhibitions of The Photo-Secession at The Little Galleries on Fifth Avenue, New York, "personally conducted" by Alfred Stieglitz and associates, offers a most interesting collection of comparative examples by members of The Photo-Secession.

The exhibition is noteworthy by reason of the large proportion of new work shown. The place of honor is given to five prints by Steichen.

Putting aside for the moment the question of artistic merit, these prints make up an exhibition of the possibilities of as many different printing processes, and from this point of view are exceedingly interesting and suggestive.

Thus there is one print on platinum, another on Royal bromide, a third on platinum plus gum bichromate, the fourth a gum bichromate and the fifth a photogravure stained with a blue-green dye to get the desired effect.

Mrs. Kasebier, Miss Alice Boughton, Miss Lohman, Mrs. Bennett and Miss Adelaide Hanscom occupy prominent places on the walls.

Among other prominent exhibitors we noticed a carefully chosen collection of prints by Alvan Langdon Coburn, including his portraits of Bernard Shaw and Frederick H. Evans.

Three or four examples of home portraits and figure studies by Clarence H. White showed steady progress and much promise.

Herbett G. French, of Cincinnati, and Joseph T. Keiley and other well-known Secessionists were also represented.

Taken all in all, the show is chiefly interesting as a demonstration of the steady progress of the members of the Secession toward the high ideal of its founder and leader, Mr. Alfred Stieglitz, and emphasizes in an undeniable way the real value of his arduous and self-sacrificing labor in behalf of American Pictoral Photography.

The present exhibition will remain open until December the 13th, and those of our readers who are visiting New York before that time should make a point of seeing it. The Little Galleries are on Fifth Avenue, between Thirtieth and Thirty-first Streets.

THE KODAK EXHIBITION.

GREAT is the Kodak, and Eastman is its maker! The very fine exhibition of Kodak photography recently held in this city, and now on tour through the country, demonstrates in a very thorough manner the great and growing possibilities of the Kodak.

There can be no doubt but that this exhibition—now on its third tour—is stimulating a great amount of interest in the Kodak and in photography in general. So popular was the exhibition in this city, that on our first attempt we were unable to get into the building owing to the great demand for admittance.

The present collection of pictures is as interesting as any collection we have seen, and shows to what a wonderful degree of perfection the work of the kodak has been brought.

Whilst almost every well-known picture maker is represented, the professional photographer will be more interested in the work of such men as Steichen, Craig Annan, Harold Baker and Alfred Stieglitz. He will find the whole exhibition of great interest, and such screens as number three, "With the Children;" number twenty-two, "Genre," and number thirty-two, "Home Por-

traiture," full of practical hints and pointers on his everyday work.

The possibilities of enlarging are shown in a magnificent manner, most of the pictures being enlarged very considerably, some of them running over three feet in length. The wide-awake photographer should see a connection between these fine enlargements and the increasing demand for the popular art subjects that sell well in the art stores.

The photographer who has an opportunity to see this exhibition should not by any chance let it pass.

NEWS AND NOTES.

Testing Shutters — The testing of shutters for speed is a problem always with us, and it may be of interest to indicate the essential principle of a new device which has been recently invented by Herr Nerrlich. An aluminium disc, having a radial slit cut in it, is made to revolve at a regulated speed by the unusual means, as a weight, with adjustable fans as control. Immediately behind the revolving disc, and central with it, is a well-illuminated ring-like opening in an opaque screen, and round this ring are arranged 150 clearly defined teeth or projections, these projections being in groups of five, alternately on the inside and outside.

A Note on Mercurial Intensification —After having bleached the negative in mercuric chloride solution, a very thorough washing is required in order to remove all traces of mercuric chloride from the film before treating the negative with ammonia, half an hour's washing being sometimes insufficient. Apollo recommends that the bleached and rinsed negative should be soaked for ten minutes in two changes of 10 per cent. ammonium chloride solution, after which a few short soakings in water will suffice.

Storing Chemicals — Some extremely useful hints were given recently before the Sheffield Pharmaceutical and Chemical Society by Mr. Upshur Smith, which whilst dealing primarily with pharmaceutical matters might well be applied to many photographic chemicals. Practically the conclusions arrived at are that all light sensitive salts and solutions should be stored in bottles of non-actinic glass. The protective power of glass is in order of the following colors: Black, red, orange, dark yellow and brown are the best; the ordinary brownish yellow, dark green, and dark brownish green are next, and then practically without protection are blueish green, violet, opal, blue, and white. It is not likely that I can enumerate all and everything that wants protection from light, but all silver, gold, platinum and mercury salts and their solutions should be protected. Not many people would imagine that dry pyro, for instance, should be kept in non-actinic light, but this is so. Amber glass bottles, such as are used by the majority of the German chemical manufacturers, are the best to use. Many of us are too prone to use the first and only bottle that is handy, but chemical solutions are tricky things, and the recommendations of the United States Pharmacopœia that all solutions should be kept in bottles free from lead and arsenic, and not subject to corrosion by acids and alkalies, are very sound. Well-ground glass or rubber stoppers should be used, and in the case of caustic alkalies, which attack glass, they should be coated with a thin film of vaseline.

The Professional Photographers Society of N. Y.

Employees can make use of this bureau absolutely free of charge.

Employees in any locality may register without charge of any kind.

In your application be sure to fill out the "locality" blank.

Members of the P. P. S. of N. Y. who wish to communicate with employees listed in this column should write to Pirie MacDonald, 141 Broadway, New York. Names will be furnished free of charge.

The lists of the Employment Bureau are sent only to members and associate members of the Society.

35—OPERATOR AND GENERAL WORKMAN; age 29; married; salary $18.

42—EXPERT, PLATINUM AND CARBON; good general work; married; $20.

62—ACCOMPLISHED PRINTER; wide experience; up-to-date; $18.

66—PRINTER-OPERATOR; general work; 27 years; 8 years' experience; steady $15.

67—A BIG CONCERN wanting an unusually capable, experienced, high-class printer or shop manager, should ask for No. 67; salary $30.

68—RETOUCHER-OPERATOR; used to Cooper-Hewitt and Aristo lights; age 33; salary $25.

69—OPERATOR, DARK ROOM OR PRINTER; always been with good galleries; age 30; salary $20.

70—LADY RETOUCHER AND PRINTER; hustler; age 30; salary $18.

71—JAPANESE RETOUCHER AND GENERAL WORKMAN; prefers New York; $15.

72—OPERATOR AND DARK ROOM; used to posing for advertising work; also portrait; age 27; married; $25.

73—LADY PRINTER AND GENERAL ASSISTANT; prefers Colorado; $15.

74—LADY RETOUCHER AND GENERAL ASSISTANT; age 26; $12.

75—(SWEDE) RETOUCHER; negative and positive.

80—OPERATOR, GENERAL MANAGER; salary $15 or $18; age 26; married; state of Illinois preferred.

77—PLATINUM PRINTER; general workman; age 29; single; salary $18.

78—PRINTER; general retoucher; age 26; salary $12.

79—ASSISTANT OPERATOR; retoucher and dark room man; age 21; salary $9.

Do not mutilate this page. Fill out a fac-simile and mail to Pirie MacDonald, 141 Broadway, New York.

EMPLOYEES' APPLICATION TO THE FREE EMPLOYMENT

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It is hereby agreed that I will at once notify this Bureau on acceptance of a position, whether obtained through the Bureau or not.

DAGUERRE MEMORIAL INSTITUTE.

Opening of the Daguerre Memorial Institute to the World.

At Winona Lake, Indiana, one of America's greatest Chautauqua Assemblies, a monumental building has been erected and dedicated to the honor of Daguerre and to the preservation of gems and works of the masters of photography. In this Salon, the only one perhaps of its kind in the world, are now assembled several thousand dollars' worth of photographic masterpieces, to which it is the intention to add others from time to time that it may become of recognized authority, be far famed and known as one of the world's greatest photographic Salons. This Salon is now not only bidding to be known as one of National reputation, but foreign nations are seeking to know its meaning.

That the fame of this Institute may grow more bountiful and become one of acknowledged merit; that the general knowledge may be advanced and assist in raising the moral, the educational and professional standard to a higher plane; that the labors of the genius of merit may not be lost and in the future we may look upon them and learn their meaning, the managers of this Institute have resolved that the highest honors possible be given to the works of the masters in photography, and that he be rewarded for his labors and loves, they have decreed to award a Diamond Medal for the best picture exhibited in their annual meeting of 1907 at Winona Lake, Indiana. This medal shall be known as "The Diamond Medal of Honor" and bear an inscription of the title of the picture for which it was awarded and the name of the Institute by which it was given; and the picture receiving this honor shall be hung in the Salon as a permanent exhibit, its award be inscribed thereon with date and name of maker. It shall be insured, copyrighted and protected and all glory and honor possible shall be ascribed thereto.

In addition to the Diamond Medal other awards will be given, among which will be a Certificate of Special Distinction to be given to *all* pictures chosen and considered worthy to be hung on the walls of the Institute as a temporary or loan exhibit. Thus exemplifying your reward in the effort to lift up the honors of photography that all may feel and more fully realize and appreciate the good photography has achieved in the moral advancement of civilization, education and commerce.

CONDITIONS OF AWARD.

No picture shall be passed upon for this honor that is not properly titled. Should the excellence of the picture chosen for this honor be judged not to equal the one chosen as best at our last annual meeting then the Trustees reserve the right to withhold the medal.

Publication and use of picture shall be under control of Trustees.

Pictures shall be passed upon by two distinct sets of judges. The one selecting a number of three to five pictures, the other select one. Any false claims made by winner of medal forfeits all honors, and at request of Trustees the same shall be surrendered.

Honors are open to the world. Indiana only excepted.

Geo J. Parrot,
Chas. W. Neiswanger,
George Graham Holloway,
Trustees.

AN EXPLANATION.

Editor Wilson's Photographic Magazine,
New York City.

Dear Sir:—On account of the fear, since justified, that some curtailments might be made in the report of my Niagara address, I made several omissions in the MSS. given the stenographer, fully expecting it would be followed explicitly and the omissions *indicated* by proper marks of punctuation.

On the supposition, also since justified by correspondence received, that my efforts possessed some instructive value, it would appear that this curtailment was a serious error. The portions omitted pertained to the phase, "How may they be secured photographically—*directly* * * *" which it is evident should be considered before *"indirectly."*

At this writing, it will suffice to say that these considerations will be cheerfully supplied if there is any desire for them, as my present ambition is to correct the mistakes occurring in the references to the accompanying illustrations and to set forth the primary object of my considerations and the reasons that prompted me to accept the President's invitation to present them.

It was assumed that every one was familiar with the "Steadman Test" of light. If one is not, full information may be gleaned from the little brochure on "Home Portraiture," by Steadman test referred to in column 1 page F. M. Steadman, issued by the Eastman Kodak Co. Figs. 1 and 2 have no bearing on the Steadman test referred to in column 1 page 461. The idea, as illustrated by the proper picture, was that a test of the intensity of light at the point of its greatest and unbroken strength, compared with the intensity in the deepest shadow, would give the *ratio* of the *light* as compared to the *illumination*.

In last paragraph of column 1 page 465, the reference should have been Fig. 4. This is supposed to represent the gradations of the serrations of the inside of a cone bellows which was used as an illustration of the representation of planes by gradation. Fig. 3, directly under the head of Separation of Planes, indicates that there can be no representation of "distance" at the absolute edge of a print if unmounted or unframed. *Then* Figs. 1 and 2 illustrated how the mount could assist in rendering infinite distance—because the upper figure was equivalent to a black card having a rectangular *opening* and held between the observer and infinite light—the lower figure a similar *white* card held between the observer and infinite darkness.

The reference to Fig. 4, column 1, page 466, is correct, but I would add that in the bellows used, the first dark line was light gray and each succeeding line was darker. Fig. 5 should have been referred to directly preceding the heading "Atmosphere" column 1 page 466. It should be very manifest that the different planes of the figure are given their proper "distance" by the different gradations to which those several planes are "tied."

The "primary object" mentioned was the ambition to pave the way for a more explicit and comprehensive consideration and presentation of the various *principles* involved in pictorial photographic portraiture. Untiring effort and study of all available literature had failed to reveal but very, *very* few *principles* photographically presented and applied. There was no desire or intention of advocating any method of procedure for *doing business*.

The Steadman test was referred to because of its familiarity and the fact that every photographer has at hand the means for using it. The "Factor" system was alluded to, not because it is necessary commercially, but because a plate always *works by the factor system* whether the photographer does or not, and a thorough comprehension of the principles of factorial development is *absolutely necessary* before the principles of exposure and development—their relation to values, etc.—can be fully mastered.

As a sequence of the above, I make the assertion that, when a speaker or writer advises a "well rounded lighting" supplemented by a "well balanced developer" with development carried to "just the right point, where, etc.," he has absolutely failed to deliver any *actual information;* but, if he shows a high type of *photographic balance* in a picture presented to view—then explains that the ratio of light intensities (by the Steadman test, or any other equally available) were 1:20, 1:40 or whatever they were, and gives the factor of development used to secure the result submitted, he has then given working data of the *actual elements* involved.

There is too often a manifest fear that an idea or principle may be absorbed, which will not come into daily practice. One of the most noted surgeons in New England, if not in the whole United States, has been known, before a very delicate and critical operation, to conceal himself from observation and, with a lance or scalpel in each hand, see if he could *bring their two edges together* with unerring precision. This was *nothing he would have occasion to do,* but it was a *test* of *his fitness for the task before him.* In like manner, I would question the fitness of one's claim as the possessor and disseminator of knowledge, unless he possess the ability to produce *gradation* and *Tone Value* with absolute precision and certainty, and to satisfy those who say, "I'm from Missouri—show me."

I hope, and with their attention called to the matter, I believe the future will call forth a more consistent line of instruction from those who are in the possession of this knowledge which the isolated but conscientious and ambitious workers are constantly striving to attain.

Awaiting the pleasure of attaining these things, through the perusal of your valuable magazine, I am

Very truly yours,

W. F. Oliver.

Harcourt Sepia Platinum Paper, the new paper put on the market by Curtis & Cameron, is meeting with an immediate success. The well-known Copely prints, made on this paper, would have convinced us of the beauty of its tones, but it was an actual experience with the paper that demonstrated the ease and certainty with which the prints are obtained. One of the good features of the paper is that it is developed with an ordinary oxalate bath at a temperature of about seventy degrees; rich sepia tones are obtained without the addition of any sepia solution. Photographers who have not yet tried this paper should not fail to do so.

It has a specially good surface for portraits.

TRADE NOTES.

NEW CATALOGUE. The trade catalogues this year have been more attractive than ever, and to be in line with the best, Burke and James have just issued in their new Number 10 catalogue a complete and well arranged list of everything the photographer can need. In addition to the well known lines manufactured by this firm will be found all the standard lines and many novelties in the time and labor-saving line that will mean increased profits to the progressive photographer.

We learn that the factory space had had to be doubled within the past twelve months—this is the best evidence that the photographer is receiving at the hands of Burke and James dependable goods with a prompt and business-like service. Write them and ask for a copy of the Number 10 catalogue.

"The American Annual and Photographic Times Annual for 1907," Geo. Murphy, Inc., New York sales agents. Price, paper covers, 75 cents postage 17 cents; cloth binding, $1.25, postage 23 cents, is just received.

With the present volume this hardy annual attains its majority. We have come to look upon it as an old friend and await its appearance with interest. The contributed articles cover a wide field of photographic activities. The professional photographer will find many interesting and helpful articles within its covers such as "The Carbon Process," by George Holman; "Hints on Flashlight Portraiture," by R. W. Taft; "Professional versus Amateur Portraiture," by W. I. Scandlin, and "Children as Photographic Subjects," by Ellsworth Gross.

The illustrations—twenty-four of them—in color, are reproductions of the work of some of our best known picture makers, and on the whole are up to the average. Dr. Shufeldt, we notice, is still perpetrating some of the worst kind of nude photography under the guise of art.

The usual amount of useful formulae is to be found at the end of the book and makes it a useful handbook for every workroom. We learn that almost the whole edition has been sold before publication. Photographers who have not yet ordered their copies had better do so before it is too late.

TRIMMERS THAT TRIM are a necessity in every photographic establishment. We have been putting the "Popular" trimmer, manufactured by the Milton Bradley Co., of Springfield, Mass., to some rather severe tests lately, and have no doubts about its good service. Cutting a sheet fifteen inches or less and retailing at $7.00 it is the most capable and satisfactory trimmer we know of, and it can be relied upon to do good work.

VICTOR FLASH POWDER is beginning to get itself well and favorably known. Visiting one of the flash-light experts in the city some few days ago we found that he was using something over one hundred boxes of this powder a month. He had used others, but evidently thinks that the "Victor" pays him best. Some of its good points are explained in our advertising pages.

BROMIDE ENLARGEMENTS. H. D. Bridle, 913 Arch Street, Philadelphia, is making, by a new process, enlargements that are equal to contact prints, and free from retouching roughness. Good work brings good prices, and it will pay you to consult him about your enlarging.

A NEW STUDIO SHUTTER has just been placed on the market by the Wollensak Optical Co., of Rochester. The shutter is made especially for the professional photographer and is absolutely noiseless. It is on the iris diaphragh principle and comes in two models —to work between the lens or behind the lens. Like all the other goods manufactured by this firm the shutter can be relied upon for long and efficient service. The Wollensak Co. will be glad to send particulars and prices on application.

EDITOR'S TABLE.

WE HAVE PLEASURE in announcing a new series of articles on "Photographers and their Specialties," by Sidney Allan, whose able sketches of some of our more prominent photographers have aroused much interest.

The new series will deal more with the method than the man and will have a practical value added to their interest.

GENRE PICTURES. The Grit Publishing Co., of Williamsport, Pa., in conjunction with the Photographers' Association of Pennsylvania, are offering a series of medals for genre subjects. Full particulars can be obtained from E. E. Seavy, Secretary of the Photographers' Association of Pennsylvania, New Castle, Pa.

WILLIAMSPORT PHOTOGRAPHERS' ASSOCIATION OF PENNSYLVANIA. This branch of the Pennsylvania Association held its executive meeting on October 3, and decided to hold their annual meeting on April 23, 24 and 25, 1907, at the Park Hall, Williamsport, Pa.

EDER'S YEAR BOOK for 1906 easily maintains its lead as the foremost photographic year book. With the German love of thoroughness it covers the advances photography and the reproductive processes have made during the past twelve months—devoting considerable space to the three-color processes.

The illustrations are examples of numerous reproductive processes including photography in natural colors.

Those of our readers who can read German should certainly secure a copy. Eder, *"Jahrbuch der Photographie und Reproduktionstechnik fur das Jahr,* 1906." Published by Wilhelm Knapp, Halle a. S. Germany. Price, 8 marks.

"LITTLE PILGRIMAGES AMONG BAVARIAN INNS," by Frank Roy Fraprie. L. C. Page & Co., Boston, Mass., publishers. 327 pages. 31 full page illustrations from photographs by the author. In cloth binding, with decorative covers. Price, $2.00.

The author of this interesting and charmingly illustrated book of travel is one of the editors of our esteemed contemporary, "The American Amateur Photographer."

In addition to a keen and appreciative observation, Mr. Fraprie has made good use of his kodak and his "account of little journeys to the Bavarian Highlands and to various quaint inns and various hostelries in and out of the ancient towns together with reminiscences of student and artist life in Munich," to quote the foreword, kept us interested to the finish—which cannot be said for all the books of travel we have read.

Mr. Fraprie has managed to put into his book much of the "old world" atmosphere and feeling we associate with such quaint and out of the world vacation spots, and but for the fact that winter is approaching we would feel impelled to start on the same pilgrimage.

A PHOTOGRAPHIC TRIP IN THE TROPICS. The Milton Waide Metropolitan School of Photography, Inc., New York, expect to have a class leave New York the latter part of January, 1907, for the delightful tropical island of Porto Rico; return due in New York the first week in March. The class is limited to twelve in number, and the outing will not only be a delightful trip, giving over three weeks in the most delightful isle of the West Indies, covering every important place of interest, including trip by coach over the Old Spanish Military Road, and the New Military Road from Ponce to Arecibo, but will also be a very *complete* and *exhaustive* course of *personal* instruction *in ideal* and individualized out-door photography. The "School" will give the entire trip under the auspices of one of its directors and instructors, one who has spent several weeks on a previous trip in Porto Rico, and thoroughly knows the ground. The price is $350 per person, and includes all traveling expenses to and from and while in Porto Rico; also personal instruction, of the highest order, in out-of-door photography, and one week's instruction at the "School" after return to New York. For further particulars, address or call at the "School." If interested, it is necessary to act quickly, as the number is positively limited to twelve.

A UNIVERSAL PHOTOGRAPHIC EXHIBITION is to take place in Dresden from May to September, 1910.

It will not be confined to photographic productions (pictures of artistic and scientific character) and the diverse kinds of utensils and requisites; it is intended to afford a comprehensive view of photographic art industry to its full extent. The making of cameras, the working of optical and graphical establishments (for heliogravure, phototype, rotatory reproduction), etc., will be shown in full work on the premises.

The interest of public authorities has been secured for the exhibition, and distinguished specialists as well as reputed firms in Germany and abroad have promised their support. The co-operation of photographers' associations and photographic periodicals of every country will be invited to contribute that the great object in view, a complete representation of photography, may be successfully attained.

The management of the undertaking has been entrusted to the German Photographers' Association of Weimar.

PHOTOGRAPHERS' ASSOCIATION OF WISCONSIN. The Executive Committee at its annual meeting decided to hold their next convention at Milwaukee April 23, 24 and 25, 1907.

It was decided to furnish the photographers of Milwaukee with invitation cards to be given to their friends and patrons inviting them to view the exhibits during one of the days of the convention. This is a plan we would urge other conventions to adopt.

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